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ABSTRACT

The Fort Frances-Rainy River area is underlain by Archean supracrustal rocks which have received minimal exploration activity in the past. This is attributed to a thick cover of glacial overburden which conceals much of the underlying bedrock and its mineral potential.

This report summarizes the results of a drift sampling program in the Fort Frances-Rainy River area. Approximately 600 samples of till and glaciofluvial sand were obtained from 71 continuously cored sonic boreholes, 44 backhoe trenches, and 165 hand-dug test pits. Samples were analyzed to determine matrix grain size and carbonate content; pebble size, shape and lithology; mineralogy of the less than 2 mm non-magnetic heavy mineral concentrate; and gold and native copper content, which includes an analysis of grain size and shape. Geochemical analyses were performed on the silt and clay fraction (less than 63 m) of all till samples as well as on the less than 2 mm magnetic and non-magnetic heavy mineral concentrates of till and glaciofluvial sand samples.

The data are summarized in datasheets which treat each sonic borehole individually and the surface samples as a group. The information from these datasheets is synthesized in the presentation of summary tables, contour maps, frequency histograms, correlation matrices and anomaly maps. Areas of enhanced mineral potential, which warrant further investigation, are outlined. Guidelines and recommendations for drift prospecting programs in the Fort Frances-Rainy River area are also presented in the report.

Till sampling survey, Fort Frances area; results and interpretation, by A.F. Bajc, Ontario Geological Survey, Study 56, 249p.

Résumé

La région de Fort Frances-Rainy River se situe sur une partie du socle Archéen dont les roches supracrustales ont été relativement peu explorées dans le passé. La raison en est une épaisse couverture de dépôts glaciaires qui dissimule une grande partie du socle sous-jacent et son potentiel de ressources minérales.

Ce rapport résume les résultats d'un projet d'échantillonage du recouvrement glaciaire dans la région de Fort Frances-Rainy River. Environ 600 échantillons de till et de sable fluvio-glaciaire ont été obtenus à partir 71 trous de forage sonique en continu, 44 tranchées faites à la pelle mécanique et de 165 trous creusés manuellement. Les échantillons ont été analysés afin de déterminer la granulométrie de la matrice et la teneur en carbonate; la grosseur, la forme et la lithologie des galets; la minéralogie de la fraction inférieure à 2 mm de minéraux lourds non-magnétiques; et la teneur en or et en cuivre natif qui comprend une analyse granulométrique et de la forme. Des analyses géochimiques ont été faites sur la fraction limoneuse et argileuse (inférieure à 63 m) de tous les échantillons de till, ainsi que sur les concentrés de minéraux lourds magnétiques et non-magnétiques de granulométrie inférieure à 2 mm des échantillons de till et de sable fluvio-glaciaire.

Les données sont résumées sur des feuilles de données qui traitent chaque trou de forage sonique individuellement et les échantillons de surface en groupe. L'information tirée de ces feuilles de données est synthétisée dans la présentation de tableaux sommaires, de tracés de courbes, d'histogrammes de fréquence, de matrices de corrélation et de cartes d'anomalies. Les zones ayant un potentiel accru en ressources minérales qui méritent une évaluation approfondie sont signalées. Ce rapport donne aussi des suggestions et des recommandations relatives aux programmes d'exploration du recouvrement glaciaire dans la région de Fort Frances-Rainy River.

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Till Sampling Survey, Fort Frances Area
Results and Interpretation

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INTRODUCTION

The Fort Frances-Rainy River area is transected by Archean supracrustal rocks of the Western Wabigoon Subprovince. Few mineral occurrences have been identified in this area (Figure 1). A thick cover of glacial overburden, which conceals much of the underlying bedrock, has impeded programs of mineral exploration. Supracrustal rocks to the north and east, where drift thicknesses diminish substantially, contain numerous mineral occurrences. It is probable that conditions favorable for mineralization exist within this part of the Western Wabigoon Subprovince as well.

A program of regional Quaternary mapping and glacial drift sampling was undertaken in the Fort Frances-Rainy River area as part of the Canada-Ontario Mineral Development Agreement (COMDA). The geochemical database generated by this program was designed to evaluate this largely unexplored area for its mineral potential. The information produced by this study will provide guidelines for future mineral exploration, as well as outline areas with enhanced mineral potential. Regional programs of drift geochemistry, with similar objectives, have been conducted in northern Minnesota (Martin et al. 1988 and Martin et al. 1989) and in an adjoining area to the north between Kenora and Dryden (Cowan 1987; Minning 1988, 1989).

The field program began during the summer of 1986 and consisted of two main components: 1) Quaternary mapping and

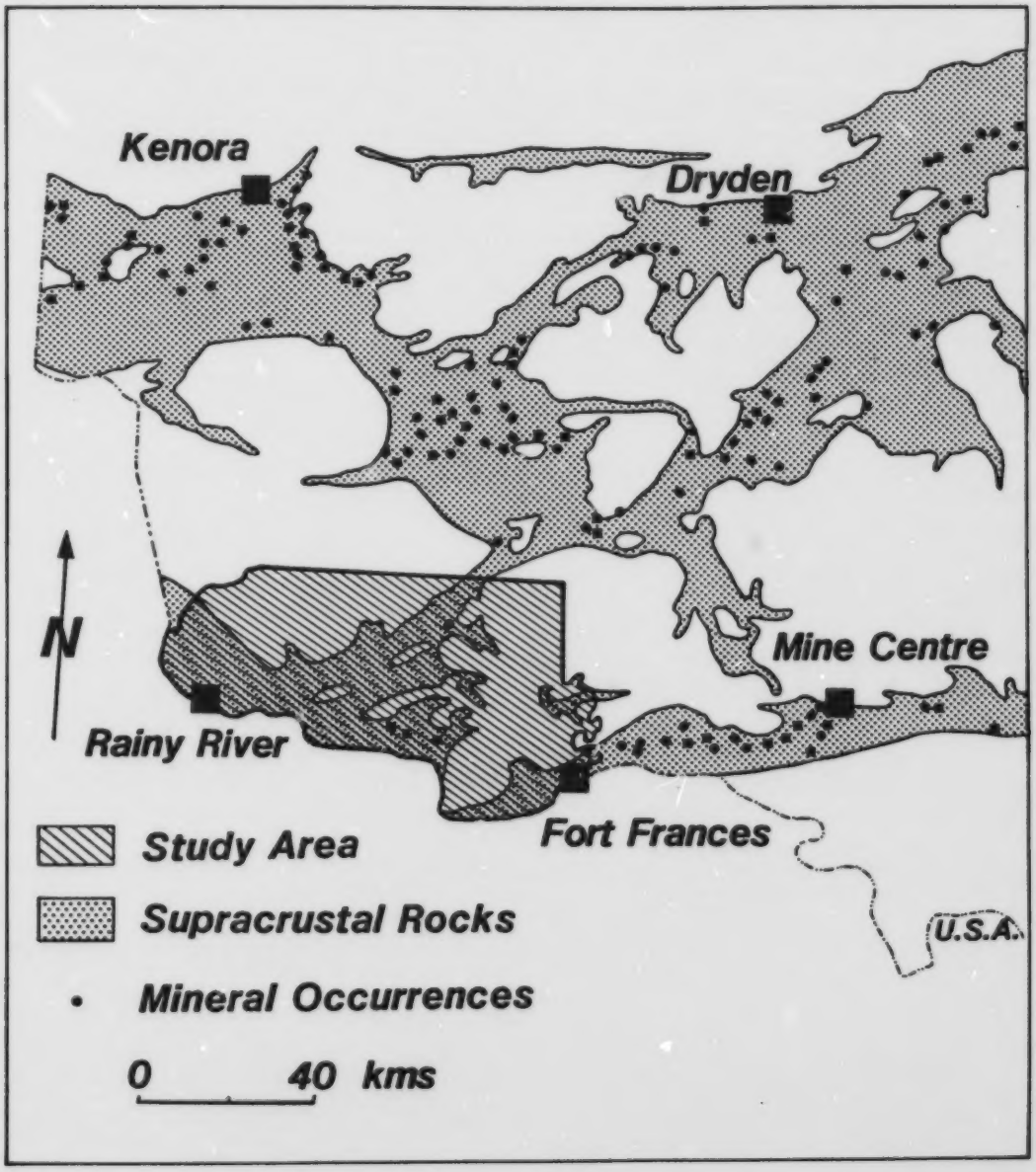


Figure 1. Mineral occurrences in supracrustal rocks of the Western Wabigoon Subprovince (Superior Province). Note that only a few occurrences are located in the Fort Frances study area.

2) till sampling. Quaternary mapping at a scale of 1:50 000 was completed during the first two summers of fieldwork in the Rainy River (Bajc and Grey 1987), Emo (Bajc and White 1990), and Northwest Bay areas (Bajc, White and Gray 1990). The mapping program established a framework of Quaternary geology to assist in the interpretation of the geochemical dataset produced as part of the follow-up till sampling program. A detailed account of material distribution, properties and stratigraphic relationships is given in the Geological Report for the area (Bajc, in prep). Till samples were collected from surface testpits, backhoe trenches and sonic boreholes. Surface testpit samples were collected as part of the regular mapping routine (1986 and 1987). Backhoe trenching and sonic drilling programs were undertaken during the 1987 and 1988 field seasons.

BEDROCK GEOLOGY

Precambrian Geology

Limited outcrop within the southern half of the report area has resulted in a simplified interpretation of the bedrock geology. The geology has been interpreted using widely scattered outcrops, geophysical data, and exploration drillholes. Within the northern half, where overburden thicknesses diminish and outcrops are common, the bedrock geology is much better understood.

The report area contains rocks of both the Quetico and Wabigoon Subprovinces of the Superior Province. The east-

trending Seine River Fault traverses the southern part of the report area and separates the rocks of the two subprovinces (Figure 2). The Quetico metasediments, to the

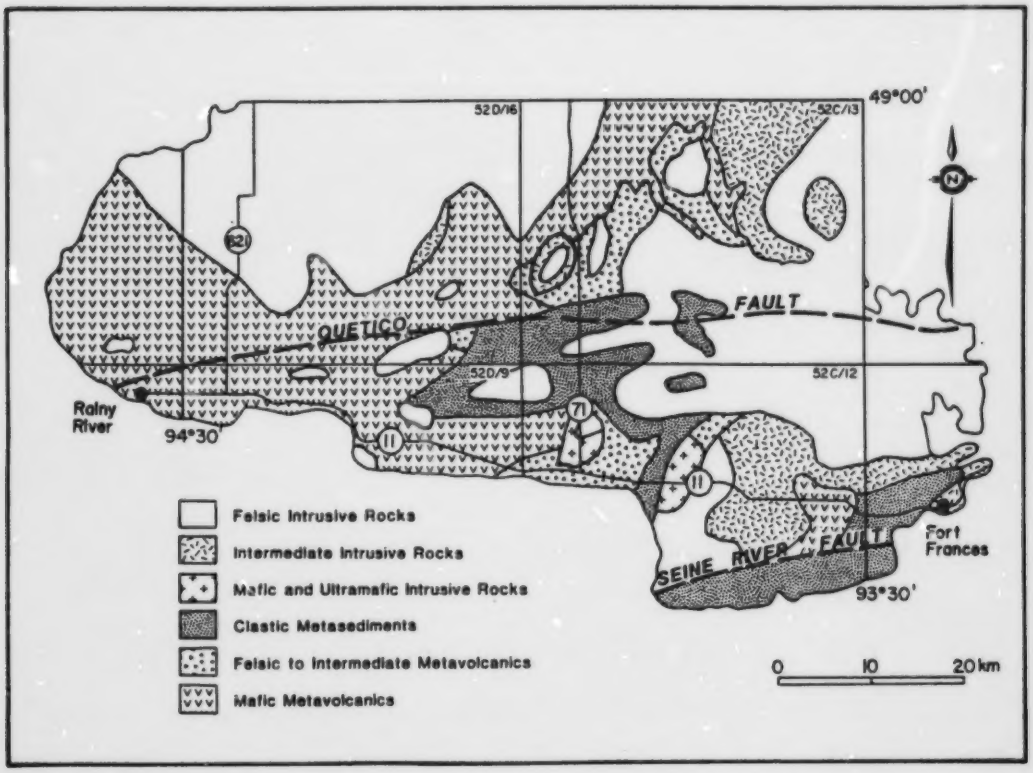


Figure 2. Bedrock geology of the report area (modified from Blackburn 1979).

south of the fault, consist primarily of sandstones, siltstones, argillites, and derived schists (Davies 1973).

To the north of the Seine River Fault, the Western Wabigoon Subprovince consists of supracrustal and batholithic rocks. A southwest-trending belt of metavolcanic and metasedimentary rocks, an extension of the Kakagi-Rowan and Manitou Lakes greenstone belts to the northeast, bisects the report area and separates felsic to

intermediate intrusive rocks of the Sabaskong Batholithic Complex, to the west, from rocks of the Rainy Lake Batholithic Complex, to the east (Blackburn 1976).

Within the northern portions of the report area, where the supracrustal rocks are well exposed, they have been observed to consist of a lower, mafic sequence of massive, porphyritic, and pillowed lavas with minor pyroclastics overlain, to the east, by an upper sequence of interbedded mafic to felsic metavolcanic rocks. The felsic metavolcanic rocks consist of fine to coarse-grained pyroclastics, quartz-feldspar porphyry, and minor dacite and rhyolite flows. Mafic metavolcanic rocks of the upper sequence consist of massive and pillowed lavas (Blackburn 1976).

To the south and west, where bedrock outcrops are much less common, correlation of units from outcrop to outcrop becomes difficult. Only a much simplified interpretation of the geological units is possible. A lower unit of massive and pillowed mafic flows is conformably overlain by interbedded and interdigitated intermediate pyroclastic and metasedimentary rocks, including greywackes, banded iron formation and reworked tuffs (Johns 1988; Fletcher and Irvine 1955). These supracrustal rocks have been intruded by the Dobie and Lash Carpenter Intrusions which consist of gabbro, norite and diorite. Several small, circular stocks of felsic to intermediate composition, have also been mapped within this supracrustal sequence, however, their aerial extent is uncertain due to poor exposure. In the

southeastern portion of the report area, lesser amounts of clastic metasedimentary and mafic metavolcanic rocks are contained within the felsic to intermediate rocks of the Rainy Lake Batholithic Complex (Davies 1973).

The east-trending Quetico Fault is well exposed to the east of the report area where it transects felsic and intermediate intrusive rocks of the Rainy Lake Batholithic Complex and supracrustal rocks in the vicinity of Mine Centre. The fault is concealed by a thick cover of glacial sediments within the report area. Geophysical methods have helped to better define the position of this fault. Southwest-trending splays off of the main fault zone have been inferred from widely scattered outcrops and geophysical interpretations (Johns 1988; W. Day, U.S.G.S., personal communication, 1988). These splays are interpreted to pass through the towns of Pinewood and Stratton.

Cretaceous Geology

A small outlier of Cretaceous, non-marine clastic sediments, nearly 20 m thick, was encountered in an Ontario Geological Survey borehole located approximately 7.5 km northwest of Rainy River. The outlier is located in a protected hollow on the leeside of a prominent bedrock ridge and is composed primarily of silica sand with minor gravel. Nodular siderite is an important constituent of the non-magnetic heavy mineral sand fraction. Most of the clasts are composed of well rounded, weathered, felsic and intermediate

intrusives, kaolinite, lignite and Paleozoic carbonates (Zippi and Bajc 1990). Other Cretaceous outliers have been reported in Minnesota and Manitoba.

Thick saprolites, presumed to be Cretaceous in age, have been documented in the study area. In areas of thick drift, as exist northwest of Rainy River, borehole records suggest saprolite thicknesses in excess of 60 m. In highland areas with thin till cover, it is not unusual to encounter saprolitic zones preserved in bedrock depressions on the leeside of bedrock highs. Tension fractures have been observed to contain till confirming a pre-Late Wisconsinan age for the development of the saprolite.

QUATERNARY GEOLOGY

As part of the mapping program, deposits and striae produced by ice originating from two sectors of the Laurentide ice sheet, were identified. These centres have been formally referred to as "Labradorean" and "Keewatin" (Figure 3).

The suture zone between these two major ice domes fluctuated through time during the last glaciation resulting in the superposition of drift with marked differences in provenance. In the Fort Frances-Rainy River area, the deposits of two ice advances, each related to a different sector, are well recorded. An early advance of the Labradorean sector towards the southwest was followed by a late-glacial advance of the Keewatin ice towards the east,

prior to deglaciation about 11,500 years B.P. Glacial Lake Agassiz fronted the advancing and retreating ice masses over

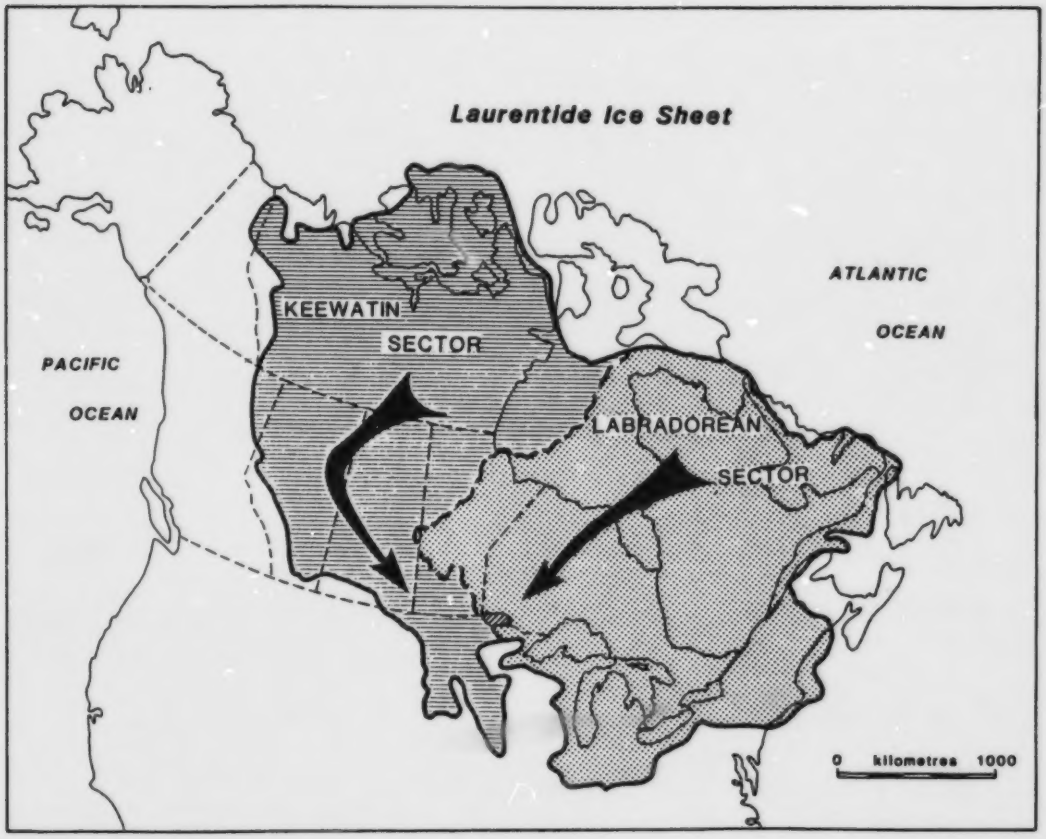


Figure 3. Maximum extent of the Laurentide Ice Sheet during the Late Wisconsinan glaciation. The suture zone between the "Keewatin" and "Labradorean" Sectors is defined by the dashed line. The report area is outlined by the cross hatch area in the lower central portion of the figure.

much of the area. Deposits of the older, Labradorean advance are found at the surface in the northeastern corner of the study area and are buried by deposits of the next ice advance over much of the remaining parts of the map area (Figure 4). The advance of Keewatin ice across the entire study area was impeded by high ground in the northeastern

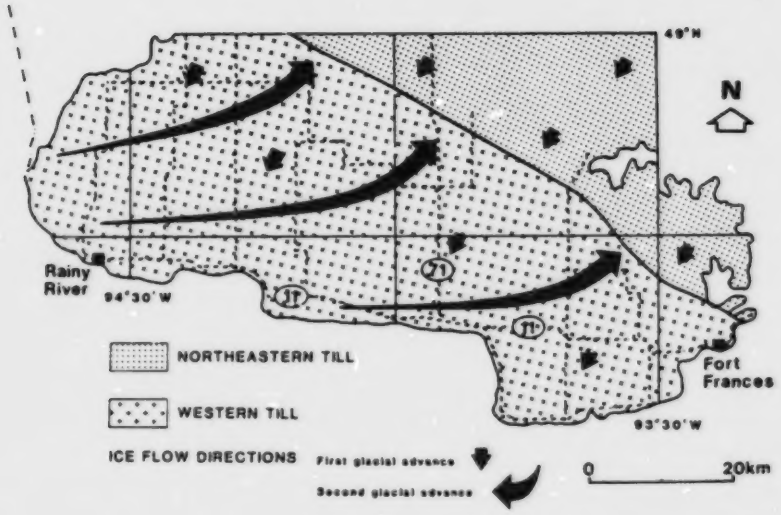


Figure 4. Distribution of surface tills and associated ice flow directions.

corner.

The older, lower glacial package (northeastern origin) consists of a stony, silty, sandy till of variable thickness and low matrix carbonate. The till is overlain and interbedded with glaciofluvial sand and gravel and/or glaciolacustrine sand, silt and minor clay. Older sediments have been encountered in only a few locations across the report area. The upper glacial package (western origin) consists of a stone-poor, silty, very fine sand to silty clay till with high matrix carbonate. This till is overlain, underlain and interbedded with glaciolacustrine silt and clay and/or glaciofluvial sand and gravel.

Pebbles recovered from the lower, northeastern derived till sheet suggest a semi-local source, whereas the upper till contains rock types derived predominantly from south-central Manitoba. The lower till is recommended as the

prime sampling medium in the area for a drift prospecting program because of its local to semi-local provenance.

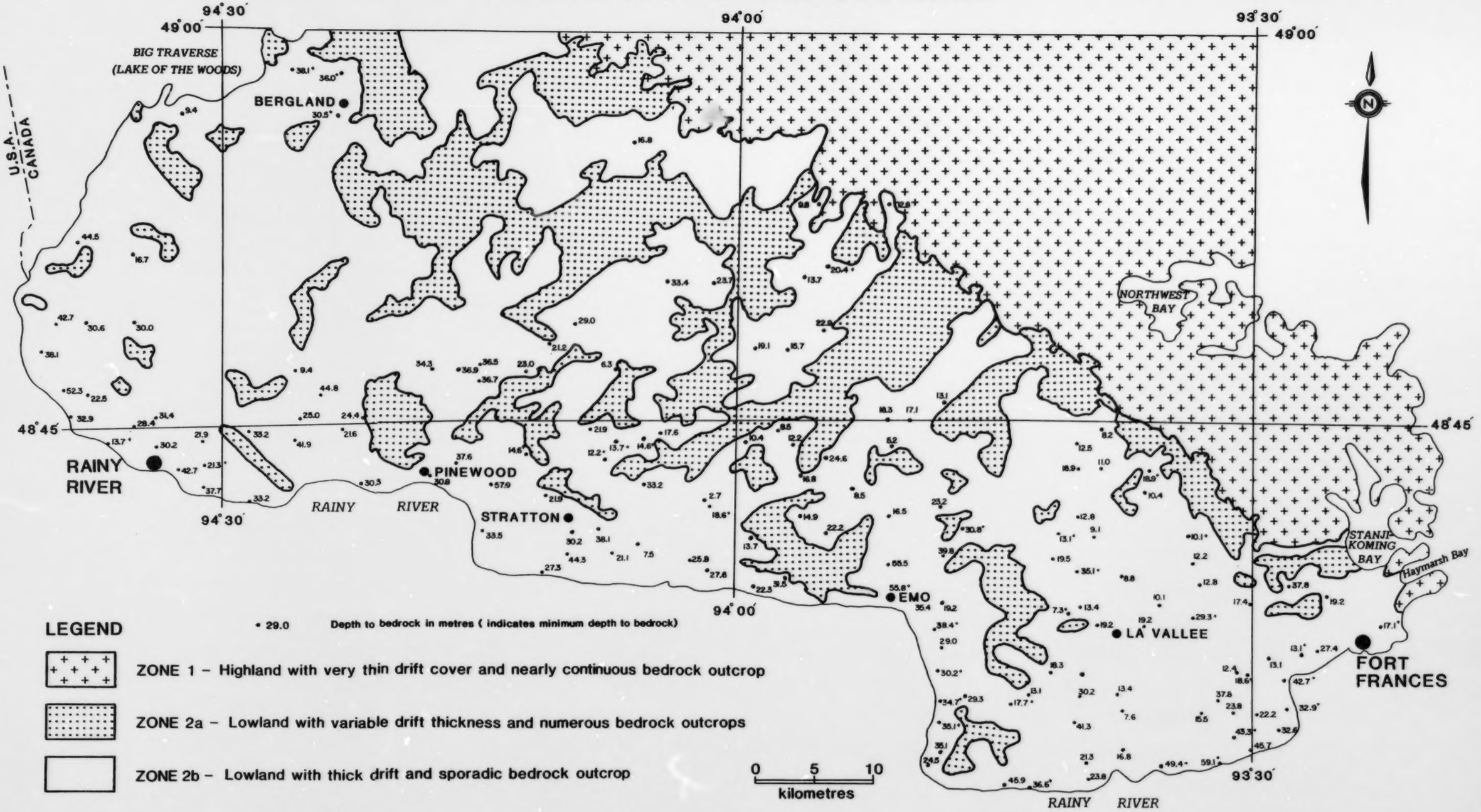
STRATEGIES AND CONSTRAINTS OF TILL SAMPLING

Three till sampling methods were utilized in the Fort Frances-Rainy River area. These include: 1) sonic overburden drilling; 2) backhoe trenching; and 3) hand-dug testpitting. The method used depended upon: 1) depth below surface of the lower, older till sheet; 2) the abundance of bedrock outcrop; and 3) road accessibility. The reader is referred to Map 1 (in pocket) for the locations of sonic boreholes, backhoe trenches, and other surface samples.

The study area can be subdivided into three discrete zones where one or more of the above mentioned sampling techniques can be used (Figure 5). Road access is limited in the extreme northeastern corner of the map area (Zone 1) where the drift is thin and discontinuous (greater than 80% bedrock outcrop). The older, northeastern derived till sheet, however, is found on surface in this area and can easily be sampled to a depth of 1.5 m using hand-dug testpits. Bedrock outcrops become less common to the southwest due to a thickening, more extensive drift cover.

A second zone defined by moderately abundant bedrock outcrops (30% to 40% percent by area) and localized pockets of thick drift (Zone 2a) is outlined in Figure 5. The lower till unit is buried beneath younger clay-rich sediments in this area and occurs on the surface around most bedrock

Figure 5: Physiography and drift thickness map of the report area.



outcrops. It is in these areas that backhoe trenching adjacent to bedrock outcrops is most cost effective and time efficient for intersecting and sampling the lower till unit. Overburden thicknesses of 20 to 30 m may also occur in this zone, thus, requiring the use of a reverse circulation or sonic overburden drill as a secondary means of obtaining large samples of the lower till from depth. A third zone (Zone 2b) is characterized by sporadic outcrops (less than 5% by area) and overburden thicknesses commonly in excess of 30 m, and occasionally up to 60 m. This zone is present along the course of the Rainy River and occupies large, extensive tracts in the extreme western and southeastern parts of the report area. Less extensive and irregular areas of Zone 2a are found within the central part of the report area. It is within Zone 2a that deep overburden drilling techniques, such as sonic and reverse circulation, are necessary. Backhoe trenching adjacent to the widely scattered outcrops of Zone 2a is also a useful means of obtaining additional samples of the lower till.

Sonic Drilling Program

Sonic drilling programs were undertaken during 1987 and 1988. The main objective of the drilling programs was to define and sample the major stratigraphic units (especially till) present within the report area. In total, 71 continuously cored boreholes were completed in 41 days. The drilling yielded relatively undisturbed cores, about 9 cm in

diameter. Approximately 2050 m of overburden and 145 m of bedrock were cored during the drilling programs. A total of 64 of the 71 boreholes intersected the lower till unit. The thickest intersections of this till are approximately 22 m in the western end of the report area and 9 m in the eastern end. For a more detailed account of drilling statistics, refer to the Ontario Geological Survey 1988 Summary of Field Work and Other Activities (Bajc 1988a).

At least 1.5 m of bedrock was cored at the base of each borehole. The core, which was lithologically logged by Glen Johns of the Precambrian Geology Section, Ontario Geological Survey, is now stored at the Drill Core Library (Ministry of Northern Development and Mines) in Kenora and available for public viewing.

Overburden core was systematically logged and sampled in the field for laboratory analysis. Sample numbers beginning with "F87" and "F88" refer to the 1987 and 1988 drilling programs, respectively. Sampling strategies changed slightly between the two years of the program. During the first year, the upper, western derived till was channel sampled at 1.5 to 3.0 m intervals. Samples were analyzed for heavy mineral content and gold grain counts, silt and clay fraction geochemistry and matrix grain size and carbonate content. During the second year, spot samples were taken at 3 m intervals. Analyses on these samples included silt and clay fraction geochemistry and matrix grain size and carbonate content. The lower, northeastern

derived till unit was channel sampled at 1.5 m intervals during both the 1987 and 1988 drilling programs. Heavy mineral separation and gold grain counts, silt and clay fraction geochemistry and matrix grain size and carbonate content were completed on these till samples. Northeastern derived glaciofluvial sands were channel sampled at 5 to 15 m intervals. These sand samples were processed to recover the heavy minerals and for gold grain counts. Table 1 summarizes the total number of samples collected from the sonic drilling programs.

Table 1. Summary of total numbers of samples collected for analytical processing.

	BOREHOLE SAMPLES			
	WESTERN DERIVED DRIFT		NORTHEASTERN DERIVED DRIFT	
	TILL	SAND	TILL	SAND
HEAVY MINERAL CONCENTRATE	83	1	179	28
SILT & CLAY GEOCHEMISTRY	227	-	178	-
GRAIN SIZE & CARBONATE CONTENT	229	-	179	-
	SURFACE SAMPLES			
	WESTERN DERIVED TILL		NORTHEASTERN DERIVED TILL	
	BACKHOE	SURFACE TESTPIT	BACKHOE	SURFACE TESTPIT
HEAVY MINERAL CONCENTRATE	2	28	39	124
SILT & CLAY GEOCHEMISTRY	2	27	44	122
GRAIN SIZE & CARBONATE CONTENT	-	99	-	117

Backhoe Trenching Program

A 10 day backhoe trenching program was undertaken during the summer of 1988 on road allowances adjacent to bedrock outcrops. A total of 37 trenches were dug in the area outlined by Zone 2a of Figure 5 and 7 trenches in Zone 1. Samples of the older, locally derived till were obtained

from all of the trenches dug in Zone 1 and 27 of the 37 trenches dug in Zone 2a. Of the 37 trenches dug in Zone 2a, 8 were placed on the northern, 9 on the southern, 12 on the eastern, and 8 on the western sides of the bedrock outcrops. There does not appear to be a side along which the lower till is preferentially preserved. However, the till appears to be looser and contains more stringers and lenses of stratified sediment on the southern and western sides of bedrock outcrops. Tills recovered from these sides are interpreted as a leeside facies of the till derived from subglacial meltout of debris. Till recovered from the northern and eastern sides of the bedrock outcrops is denser, fissile, appears more massive, and displays structures suggestive of deposition by grounded, active ice. This till facies is commonly referred to as lodgement till. Shear planes and extension fractures, indicating southwesterly ice flow were noted in several exposures of till on the northern and eastern sides of bedrock outcrops.

A tire-mounted backhoe capable of attaining depths of 5.0 m was used to excavate trenches and collect till samples. In most cases, bulk samples of northeastern derived till were collected from the bedrock-till interface. However, in a few instances, the bedrock surface was beyond the reach of the backhoe shovel and samples were collected at a higher level. All till samples collected in this program are considered oxidized. The till was sieved

through a 4.75 mm screen at the sampling site to obtain pebbles for lithologic examination.

Backhoe sample numbers begin with the letters, "FBH". Table 1 summarizes the total number of samples collected from the backhoe trenching program.

Surface Testpitting Program

As part of the Quaternary mapping of the Fort Frances-Rainy River area, surface samples of till were collected from roadcuts, riverbank exposures, borrow pits, and hand-dug testpits. In the northeastern corner of the map area, where the older till sheet is exposed on surface, samples were obtained primarily by surface testpitting. The till samples were sieved through a 4.75 mm screen at the sampling site to obtain pebbles for lithologic examination. Bulk samples of the sieved till were collected for heavy mineral separation, silt and clay fraction geochemistry and matrix grain size and carbonate content. In the southwest portion of the report area, where the older till unit is buried by thick sequences of younger sediments, samples of the surface till sheet were collected at roadcuts, ditches, riverbank exposures, and borrow pits. Due to the fine-grained and stone-poor nature of the till, only large pebbles could be removed from the bulk samples. Pebbles were also gathered from the weathered till surface to obtain representative suites for lithologic examination. Only selected samples of this till were collected for heavy mineral separation and

gold grain counts. Smaller samples were collected for silt and clay fraction geochemistry and matrix grain size and carbonate content. Surface testpit sample numbers begin with the letters, "RR", "AV", "P", "E", "FF", or "NB". Table 1 summarizes the total number of samples collected from the surface testpitting program.

SAMPLE PROCESSING

Samples collected for heavy mineral processing and gold grain counts weighed between 7 and 10 kg. In some cases, smaller samples were submitted because of limited unit thickness and material availability from sonic core. Smaller sample splits weighing about 250 g were collected for silt and clay fraction geochemistry, grain size analysis and carbonate content.

Heavy Mineral Fraction

Heavy mineral concentrates were prepared by Overburden Drilling Management Ltd., Nepean, Ontario using the procedure shown in Figure 6. The less than 2.0 mm fraction of a 7 to 10 kg sample of till or sand is passed over a shaking table to obtain a pre-concentrate of heavy minerals. If native gold or copper grains are observed on the table, the pre-concentrate is panned to determine the number, size and shape of the gold or copper grains present. Accessory minerals, such as chalcopyrite and arsenopyrite, are also counted during the panning process. All gold, copper, and accessory mineral grains are recombined with the

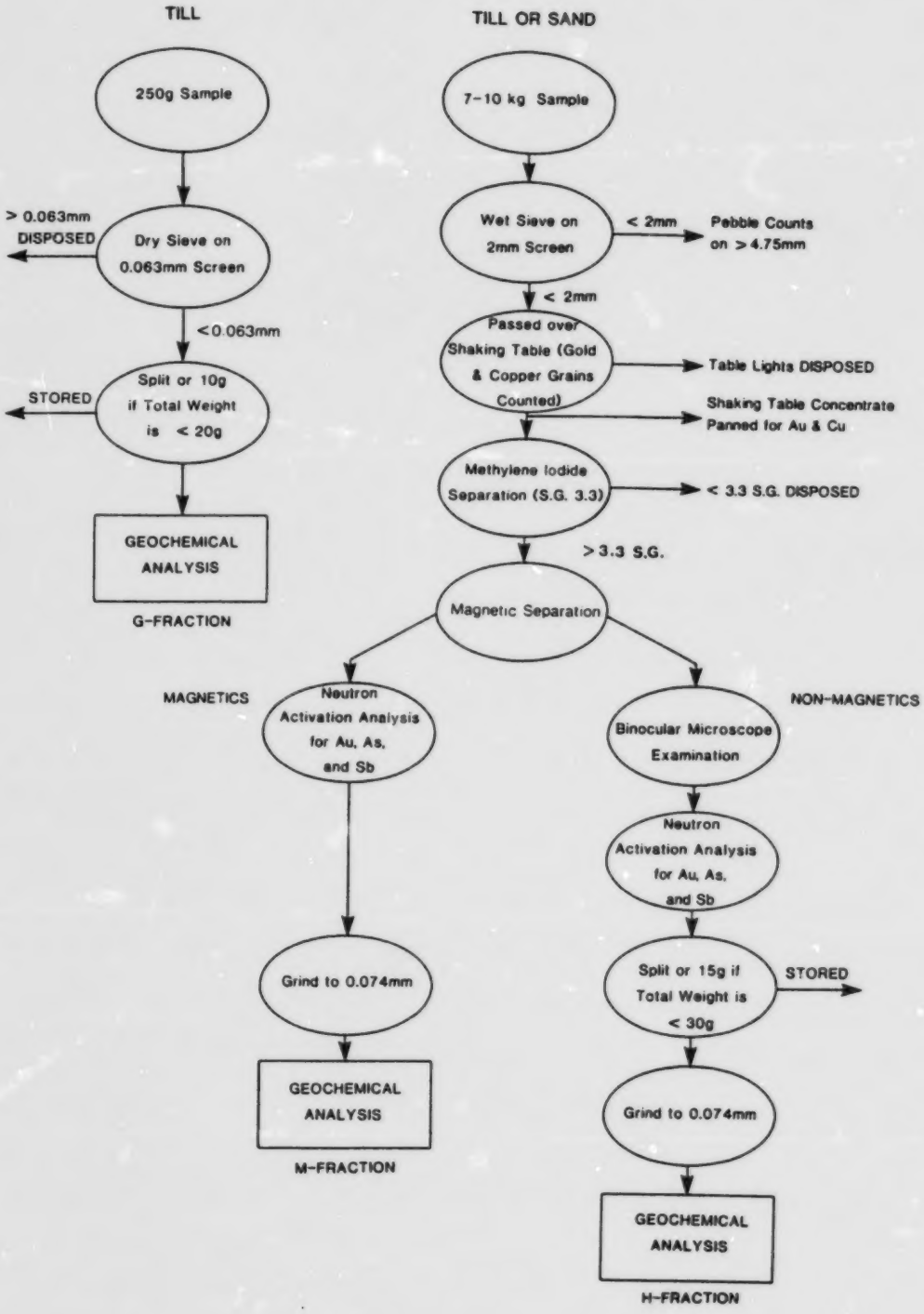


Figure 6. Sample preparation flow chart for till and sand samples collected from the report area.

preconcentrate prior to a further concentration in the heavy liquid, methylene iodide (3.3 S.G.). The methylene iodide heavy mineral concentrate is separated into magnetic and non-magnetic fractions. Mineralogical counts are performed on the non-magnetic fraction prior to geochemical analysis using a binocular microscope and the line traverse method. One-hundred heavy mineral grains are counted and the entire heavy mineral concentrate is scanned for accessory minerals that commonly occur at concentrations of less than one percent. For a more detailed account of sample processing to recover heavy mineral concentrates, refer to Ontario Geological Survey Open File Report 5569 (Averill et al. 1986).

Silt and Clay Fraction

Bulk till samples collected for silt and clay fraction geochemistry were submitted to Bondar-Clegg & Co. Ltd., Ottawa for processing. After crushing by hand in a mortar to break up lumps, the samples were passed through a stainless steel mesh with 0.063 mm openings and the coarse fraction discarded (Figure 6).

ANALYTICAL METHODS AND DETECTION LIMITS

Heavy mineral concentrates and bulk till samples were submitted to Bondar-Clegg & Co. Ltd. in Ottawa for geochemical determinations. Approximately 600 samples of bulk till were submitted for silt and clay fraction

geochemistry (G-fraction), 485 samples for non-magnetic heavy mineral geochemistry (H-fraction) and 40 samples for magnetic heavy mineral geochemistry (M-fraction).

Heavy Mineral Fraction

Several analytical methods were utilized to produce the geochemical datasets for the magnetic and non-magnetic heavy mineral concentrates (Table 2). In an attempt to avoid what

Table 2. Analytical methods and detection limits for magnetic and non-magnetic heavy mineral concentrate geochemistry.

Magnetic and Non-magnetic Heavy Mineral Concentrate Geochemistry

Element	Method	Detection Limit
Au	INAA & FA/DCP	5 ppb & 1 ppb
As	INAA	1 ppm
Sb	INAA	0.2 ppm
Mo	AA	1 ppm
Ag	AA	0.1 ppm
Cu	AA	0.5 ppm
Pb	AA	2 ppm
Zn	AA	0.5 ppm
Ni	AA	1 ppm
Cr	DCP	1 ppm
Co	AA	1 ppm
Ba	DCP	1 ppm
Pt	FA/DCP	5 ppb
Pd	FA/DCP	1 ppb

INAA - Instrumental Neutron Activation Analysis (Epithermal Irradiation)
FA/DCP - Fire Assay-Direct Current Plasma Spectroscopy
AA - Flame Atomic Absorption Spectroscopy
DCP - Borate Fusion-Direct Current Plasma Spectroscopy

is commonly referred to as the "nugget effect", which is caused by particulate gold in till, the entire unpulverized heavy mineral concentrates were analyzed for Au by

instrumental neutron activation (INAA); a non-destructive analytical technique. The concentrations of As and Sb were also determined by this method.

Prior to further geochemical analysis, a 50:50 split or 15 g subsample, whichever was greater, of the non-magnetic heavy mineral concentrate and all of the magnetic heavy mineral concentrate were pulverized to 0.074 mm in an agate mill, purged between samples with silica sand.

The pulverized concentrates were analyzed for Mo, Ag, Cu, Pb, Zn, Ni and Co by Flame Atomic Absorption (AA). The metals were extracted from the pulverized heavy mineral concentrates using a HNO_3/HCl (1:3) digestion and a test sample weight of 0.5 g.

All Labradorean derived non-magnetic heavy mineral concentrates were reanalyzed for their silver content by flame atomic absorption spectroscopy using a $HNO_3/HClO_4$ digestion and a test sample weight of 0.5 g. Dissolution problems using the HNO_3/HCl digestion produced a dataset with poor reproducibilty and questionable validity. For this reason, only silver values obtained by the $HNO_3/HClO_4$ digestion are reported in the datasheets. Silver values for the non-magnetic heavy mineral concentrates of Keewatin derived drift and the magnetic heavy mineral concentrates of Labradorean derived drift are not reported.

Borehole samples of northeastern derived drift (till and sand) collected in the vicinity of mafic intrusive rock bodies and airborne magnetic highs were analyzed for their

Pt and Pd content. Twenty gram aliquots of the pulverized concentrates were analyzed by Fire Assay Lead Collection-Direct Current Plasma Emission (FA/DCP) using an aqua regia digestion. All northeastern derived drift samples were reanalyzed for gold using this method. A strong correlation was observed between the two datasets (Figure 7).

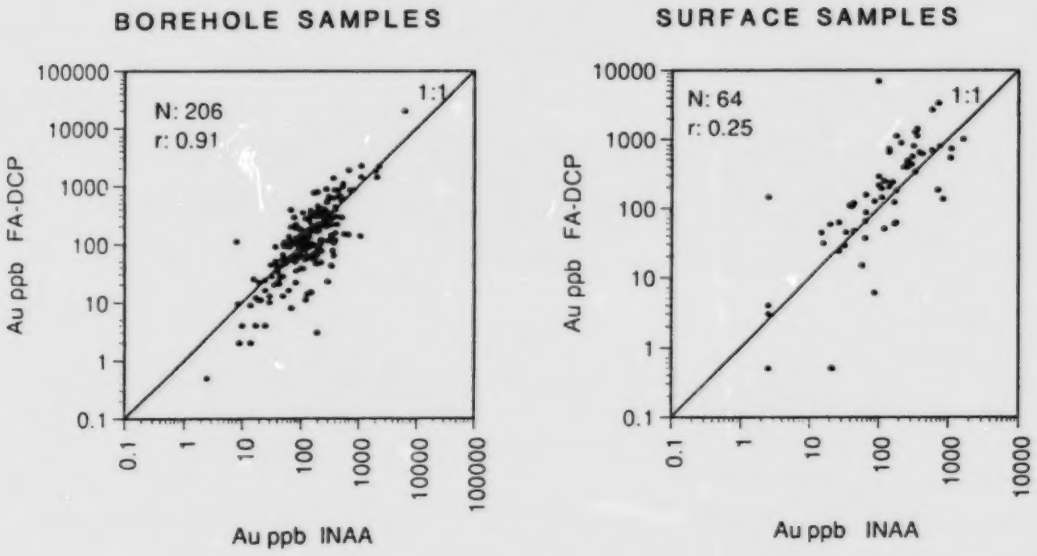


Figure 7. Plot of Au values obtained by INAA on the entire non-magnetic heavy mineral concentrate versus Au values obtained by FA/DCP on a 20 g split of the same concentrate (borehole and surface samples).

Discrepancies between the fire assay and neutron activation gold values are attributed to the small subsample size and their inherent susceptibility to the "nugget effect".

Borate Fusion-Direct Current Plasma Emission Spectroscopy (DCP) was used for the determination of total Cr and Ba.

Refer to Table 2 for a summary of the analytical methods and their detection limits assuming optimum sample weights are used. Test sample weights below those noted above resulted in a general increase in detection levels.

Silt and Clay Fraction

Several analytical methods were utilized to produce the geochemical datasets for the silt and clay fraction (less than 0.063 mm) of till samples (Table 3). Fire Assay Lead

Table 3. Analytical methods and detection limits for silt and clay fraction geochemistry.

Silt and Clay Fraction Geochemistry

Element	Method	Detection Limit
Au	FA/DCP	1 ppb
As	HG AA	1 ppm
Sb	HG AA	0.2 ppm
Mo	AA	1 ppm
Ag	AA	0.1 ppm
Cu	AA	0.5 ppm
Pb	AA	2 ppm
Zn	AA	0.5 ppm
Ni	AA	1 ppm
Cr	DCP	1 ppm
Co	AA	1 ppm
Ba	DCP	1 ppm
Pt	FA/DCP	5 ppb
Pd	FA/DCP	1 ppb

FA/DCP - Fire Assay-Direct Current Plasma Emission Spectroscopy
AA - Flame Atomic Absorption Spectroscopy
DCP - Borate Fusion-Direct Current Plasma Emission Spectroscopy
HG AA - Hydride Generation Atomic Absorption Spectroscopy

Collection-Direct Current Plasma Emission (FA/DCP) was used for Au determinations of all till samples and for Pt and Pd

determinations of selected borehole samples of northeastern derived till collected down ice from mafic intrusions and airborne magnetic highs. The elements Mo, Ag, Cu, Pb, Zn, Ni and Co were determined by Flame Atomic Absorption Spectroscopy (AA). Borate Fusion-Direct Current Plasma Emission Spectroscopy (DCP) was used for the determination of total Cr and Ba. Hydride Generation Atomic Absorption Spectroscopy (HG AA) was used to determine As and Sb. In this method, the metals were extracted from the less than 0.063 mm fraction of till samples using a HNO_3/HCl (1:3) digestion and a test sample weight of 0.5 g.

QUALITY CONTROL

Control samples were included with the three geochemical fractions to monitor data quality. Unmarked standards were inserted at intervals of one per 10 to 15 field samples. Statistics on the control samples were calculated for elements which had concentrations above detection limit. If only a few standard samples had concentrations below detection limit for a particular element, the samples were assigned values half those of the detection limits and statistical calculations performed.

Non-magnetic Heavy Mineral Fraction

The "BRiM Standard" was submitted as the control for till and sand samples undergoing non-magnetic heavy mineral geochemistry. The concentrate was produced by Overburden

Drilling Management Ltd. from sand collected in the Ottawa area. The reader is referred to Ontario Geological Survey Open File Reports 5653 and 5736 (Bloom 1987; McClenaghan 1990a) for statistical information on the "BRiM Standard" obtained from past geochemical analyses.

Values listed in Table 4 are those obtained from the initial analyses. In general, the variation of the data

Table 4. Non-magnetic heavy mineral concentrate standard geochemistry and statistics (BRiM standard).

SAMPLE #	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-01-12H	11	-1	-1	-0.2	1	10.7	7	33.0	6	222	7	67		
F87-04-08H	23	15	-1	-0.2	-1	7.7	5	28.0	6	220	8	68		
F87-12-05H	-5	-1	3	0.4	1	9.9	8	30.0	6	185	6	93		
F87-18-08H	-12	-3	5	0.3	1	23.1	4	33.0	5	172	8	48		
F87-21-09H	72	107	-1	-0.2	-1	12.2	6	23.0	4	234	7	65		
F87-26-09H	-11	-3	-3	-0.2	1	10.4	5	28.0	4	223	10	59		
F87-27-22H	-11	6	3	-0.2	-1	9.2	5	28.0	5	215	7	415		
F87-28-13H	27	49	-2	0.2	1	9.5	5	29.0	4	247	10	42		
F87-31-07H	-5	-3	-1	-0.2	-1	40.4	6	29.0	4	239	8	78		
F88-07-08H	-5	-6	-1	0.2	1	10.6	4	32.0	4	187	8	51		
F88-10-11H	-5	4	-1	0.2	1	21.8	7	30.0	6	182	9	74		
F88-13-07H	-10	-5	-1	-0.2	2	127.1	10	89.0	7	197	13	77		
F88-22-02H	51	64	-1	-0.2	1	14.5	7	29.0	8	178	11	95		
F88-33-19H	-5	-1	-1	-0.2	1	11.5	6	40.0	5	211	9	56		
F88-34-19H	-12		-3	-0.2	3	10.4	8	48.2	8	181	9	47		
F88-35-15H	-11		-2	-0.2	1	8.5	8	34.1	7	177	7	55		
F88-37-13H	-5	-1	3	0.2	2	8.3	7	29.5	6	198	7	46		
FBH-13-02H	-5		-2	-0.2	2	8.9	7	27.5	6	244	5	63		
FBH-24-02H	-12	13	-3	-0.2	2	8.2	8	30.5	6	211	6	44		
FBH-45-01H	-5	31	-1	0.2	2	7.5	6	23.0	4	209	5	49		
E-215H	-12		-3	1.4	2	6.4	8	32.2	5	171	7	45		
E-445H	-5		3	0.3	2	7.8	6	30.1	6	180	7	31		
NB-20H	-5		-1	0.3	3	7.4	8	43.4	8	164	9	33		
NB-239H	-5	15	-1	-0.2	2	7.7	8	33.6	6	203	8	34		
NB-275H	-5		-2	0.3	3	7.9	9	37.7	7	271	5	31		
NB-297H	-5		-1	-0.2	4	9.7	9	49.3	6	212	10	35		
NB-410H	-5	29	-2	-0.2	4	9.1	13	28.1	11	739	7	14		
NB-505H	-5		-2	0.2	5	7.5	8	42.2	6	217	11	48		
NB-546H	100	492	-2	-0.2	5	10.5	7	34.9	5	221	9	31		
NB-603H	-5	6	-2	-0.2	3	9.4	9	36.7	5	240	9	35		
F87-07-07H	-5	-5	2	-0.2	3	21.5	10	44.7	6	218	10	68	-25	-5
F87-22-12H	-5	-2	-1	-0.2	3	13	9	34.8	7	238	9	49	-8	-2
F87-34-09H	-5	-2	-1	-0.2	2	11.3	8	31.3	7	214	11	47	-11	2
F88-31-08H	19	8	-1	0.3	2	10.4	9	35.5	8	210	9	147	-8	-2
TOTAL	34	25	34	34	34	34	34	34	34	34	34	34	4	4
MEAN	NA	NA	NA	NA	NA	15.0	7	35.0	6	224	8	66	NA	NA
STD.DEV.	NA	NA	NA	NA	NA	20.5	2	11.3	1	93	2	65	NA	NA
VAR	NA	NA	NA	NA	NA	421.6	3	128.2	2	8649	3	4266	NA	NA
MAX	100	492	5	1.4	5	127.1	13	89.0	11	739	13	415	-8	2
MIN	-5	-1	-1	-0.2	-1	6.4	4	23.0	4	164	5	14	-8	-2

about the calculated mean is within acceptable limits and is partially accounted for by the inhomogeneity of the control samples. Repeats were performed on standards which displayed unusually high or low values and, for the most part, confirmed the initial anomalous values.

All samples, including standards, in the interval F87-29-11H to F88-31-06H were reanalyzed for copper since many of the samples displayed unusually high concentrations. The copper repeats showed excellent agreement with the initial values.

A silver standard prepared by the Geoscience Laboratories at the Ontario Geological Survey was inserted on a ten sample interval to monitor data quality for the repeat silver analyses (i.e., repeats on the non-magnetic heavy mineral concentrates of northeastern-derived drift). Five repeat analyses were performed on the standard at the Geoscience Laboratories using a "total digestion" and flame atomic absorption spectroscopy to confirm sample homogeneity. The sample yielded values of 8.0 ppm, 8.0 ppm, 8.0 ppm, 8.0 ppm and 8.5 ppm. Table 5 lists the silver values obtained from the 42 standards submitted as part of the repeat analyses ($HNO_3/HClO_4$ partial digestion). The analyses yielded a mean of 5.5 ppm Ag with a range of 2.5 ppm to 11.1 ppm and a standard deviation of 1.7 ppm. The variation of the data about the mean is so large that an interpretation of the field data set is very difficult,

especially since background and anomalous values differ by less than two standard deviations.

Table 5. Silver standard geochemistry and statistics. Repeat analyses of Labradorean derived, non-magnetic heavy mineral concentrates ($HNO_3/HClO_4$ digestion).

SAMPLE #	Ag (ppm)	SAMPLE #	Ag (ppm)
STA-1	9.1	STA-22	5.3
STA-2	5.2	STA-23	2.5
STA-3	3.5	STA-24	4.4
STA-4	7.1	STA-25	3.8
STA-5	5.9	STA-26	5.3
STA-6	5.3	STA-27	2.9
STA-7	4.7	STA-28	6.1
STA-8	6.9	STA-29	3.9
STA-9	4.0	STA-30	4.3
STA-10	4.5	STA-31	5.4
STA-11	4.6	STA-32	3.7
STA-12	11.1	STA-33	4.8
STA-13	4.9	STA-34	7.5
STA-14	5.5	STA-35	4.1
STA-15	5.9	STA-36	4.5
STA-16	6.3	STA-37	3.3
STA-17	5.4	STA-38	5.7
STA-18	3.9	STA-39	5.4
STA-19	7.4	STA-40	7.8
STA-20	6.2	STA-41	4.9
STA-21	8.6	STA-42	7.6
TOTAL	42	VAR.	3.0
MEAN	5.5	MAX.	11.1
STD. DEV.	1.7	MIN.	2.5

Magnetic Heavy Mineral Fraction

A magnetic heavy mineral standard, referred to as the "Fort Frances Standard" was produced by combining the magnetic concentrates of all western derived till samples collected from the 1987 sonic drilling program. The homogeneity of this till sheet makes it an excellent candidate as a reference standard. Table 6 summarizes the geochemistry of the four "Fort Frances Standard" control samples used for

the magnetic heavy mineral geochemical fraction. The variation of the data about the calculated

Table 6. Magnetic heavy mineral fraction standard geochemistry and statistics (Fort Frances Standard).

SAMPLE #	Au (INAA) (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-07-08M	-5	3	8	0.7	3	25.5	24	74.1	102	1670	37	53	-5	113
F87-22-12M	-5	6	9	0.9	5	27.2	18	79.4	141	1730	48	72	-15	-3
F87-34-10M	-5	2	8	0.7	4	23.4	16	74.7	115	1660	43	21	-5	-1
F88-31-08M	-5	3	9	0.7	4	20.5	17	73.7	107	1740	36	39	-13	-3
TOTAL	4	4	4	4	4	4	4	4	4	4	4	4	4	4
MEAN	-5	4	9	0.8	4	24.2	19	75.5	116	1700	41	46	NA	NA
STD.DEV.	0	2	1	0.1	1	2.5	3	2.3	15	35	5	19	NA	NA
VAR	0	2	0	0.0	1	6.3	10	5.3	226	1250	24	350	NA	NA
MAX	-5	6	9	0.9	5	27.2	24	79.4	141	1740	48	72	-5	113
MIN	-5	2	8	0.7	3	20.5	16	73.7	102	1660	36	21	-5	-1

mean is, for the most part, within acceptable limits. An unusually high Pd value for sample F87-07-08M is attributed to sample inhomogeneity.

Silt and Clay Fraction

The "Val Gagne Standard" was submitted as the control for till samples undergoing silt and clay fraction geochemical analyses. The standard consists of a till collected from a small borrow pit at Val Gagne in northeastern Ontario. The reader is referred to Ontario Geological Survey Open File Reports 5653 and 5736 (Bloom 1987; McClenaghan 1990a) for a description of the till and statistical information on the Val Gagne Standard obtained from past geochemical analyses.

Values listed in Table 7 are those obtained from the initial analyses of the Val Gagne Standard. In general, the variation of the data about the calculated mean for each

element is within acceptable limits. The size of the standard deviation is partially accounted for by the inhomogeneity of the control samples. Repeat analyses were performed on standards which displayed unusually high or low values and, for the most part, confirmed the initial spurious values. Standards NB-410 and NB-545 displayed unusually high Cu, Zn, Ni, Cr and Co values which were confirmed by the repeat analyses.

Table 7. Silt and clay fraction standard geochemistry and statistics (Val Gagne standard).

SAMPLE #	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-01-12G	-1	-1.0	-0.2	-1	-0.1	8.9	4	18.7	9	66	4	414		
F87-04-08G	-1	-1.0	-0.2	-1	-0.1	8.2	2	13.8	9	62	5	468		
F87-09-04G	-1	-1.0	-0.2	-1	-0.1	7.1	1	12.9	7	40	5	502		
F87-12-05G	-1	1.0	-0.2	-1	0.1	9.8	5	16.3	10	39	7	471		
F87-14-12G	-1	1.0	-0.2	-1	-0.1	9.2	3	17.6	8	38	7	479		
F87-18-08G	-1	1.0	-0.2	2	-0.1	8.4	10	15.0	7	35	11	439		
F87-21-09G	-1	-1.0	-0.2	-1	-0.1	9.9	3	16.9	10	28	5	442		
F87-23-15G	-1	1.0	-0.2	-1	-0.1	9.6	4	14.3	9	35	5	419		
F87-24-12G	-1	1.0	0.2	-1	-0.1	9.3	5	17.8	10	28	5	462		
F87-25-13G	-1	-1.0	-0.2	-1	-0.1	8.2	4	14.2	6	26	4	411		
F87-26-09G	5	-1.0	-0.2	-1	-0.1	10.8	3	16.4	10	40	5	442		
F87-27-17G	-1	1.0	0.3	-1	-0.1	12.0	3	17.3	12	62	3	458		
F87-28-13G	1	1.0	0.2	-1	-0.1	11.0	3	15.7	10	62	3	458		
F87-29-12G	2	1.0	0.2	-1	-0.1	11.1	4	14.4	11	86	4	518		
F87-31-07G	25	1.0	0.2	-1	-0.1	11.5	3	16.0	9	80	5	436		
F87-32-08G	2	1.0	0.2	-1	-0.1	11.4	4	15.1	10	97	4	410		
F87-33-15G	1	1.0	0.3	-1	-0.1	11.4	5	15.5	11	80	5	394		
F88-04-05G	1	-1.0	0.2	-1	-0.1	11.3	7	16.3	9	66	3	444		
F88-07-08G	9	1.0	0.3	-1	0.1	11.8	6	14.5	11	55	4	410		
F88-10-11G	-1	1.0	0.2	-1	-0.1	11.4	6	15.7	11	58	4	914		
F88-13-07G	2	-1.0	0.2	-1	-0.1	11.7	4	13.7	11	36	5	454		
F88-17-05G	8	1.0	0.2	-1	0.1	10.9	5	14.8	12	62	4	424		
F88-23-07G	-1	1.0	-0.2	-1	-0.1	8.5	5	15.4	10	64	2	526		
F88-28-05G	-1	1.0	0.2	-1	-0.1	8.6	5	14.0	9	74	3	450		
F88-33-19G	-1	1.0	0.3	-1	-0.1	9.5	6	15.9	10	76	4	430		
F88-34-19G	-1	1.0	0.3	-1	0.1	9.0	5	13.5	10	56	3	584		
F88-37-13G	-1	1.0	0.2	-1	0.1	8.8	4	14.6	11	48	4	414		
FBH-13-02G	-1	-1.0	0.2	-1	-0.1	10.4	5	14.9	11	97	3	470		
FBH-24-02G	4	3.0	-0.2	-1	-0.1	9.2	5	14.0	11	90	3	428		
FBH-45-01G	2	1.0	0.2	-1	-0.1	8.9	5	15.3	10	85	3	484		
E-215G	-1	-1.0	0.2	-1	-0.1	11.3	4	17.2	15	45	3	397		
NB-020G	3	1.0	-0.2	-1	-0.1	11.6	2	17.2	11	59	4	516		
NB-239G	3	1.0	-0.2	-1	-0.1	10.9	2	16.7	11	97	4	467		
NB-275G	-1	1.0	-0.2	-1	-0.1	11.6	4	16.3	10	73	4	431		
NB-297G	-1	1.0	-0.2	-1	-0.1	10.5	5	14.9	8	108	4	455		
NB-410G	-1	2.0	0.2	-1	-0.1	22.2	6	54.5	26	91	10	421		
NB-505G	-1	-1.0	0.2	-1	-0.1	11.3	4	17.8	9	70	4	422		
NB-545G	3	1.0	-0.2	-1	0.1	11.2	4	38.7	22	139	9	553		
NB-603G	-1	1.0	-0.2	-1	-0.1	11.3	4	17.7	10	65	3	460		
F87-07-07G	-1	1.0	0.2	-1	-0.1	8.0	6	16.0	10	8	2	435	-5	-1
F87-22-12G	-1	1.0	-0.2	-1	0.1	8.9	5	14.1	10	49	2	430	-5	-1
F87-34-09G	2	1.0	0.2	-1	-0.1	9.1	4	15.7	10	63	-1	414	-5	-1
F88-31-08G	3	1.0	-0.2	-1	-0.1	9.1	2	14.4	11	44	3	426	-5	-1
TOTAL	43	43	43	43	43	43	43	43	43	43	43	43	4	4
MEAN	NA	NA	NA	NA	NA	10.3	4	17.0	11	62	4	462	-5	-1
STD.DEV.	NA	NA	NA	NA	NA	2.2	2	6.9	3	25	2	81	0	0
VAR	NA	NA	NA	NA	NA	5.0	2	47.4	11	639	4	6496	0	0
MAX	25	3.0	0.3	2	0.1	22.2	10	54.5	26	139	11	914	-5	-1
MIN	-1	-1.0	-0.2	-1	-0.1	7.1	1	12.9	6	8	-1	394	-5	-1

DATASHEETS

Datasheet Series A. Sonic Boreholes

Datasheets were constructed for each of the 71 sonic boreholes to summarize the stratigraphy and analytical data generated from the samples collected (Datasheet Series A). Each datasheet contains a graphic and descriptive log of the sediments encountered in the borehole, a list of samples taken and sampling interval. Analytical data consists of till texture and carbonate content, pebble lithology data for till and sand samples, mineralogy of the non-magnetic heavy mineral fraction, heavy mineral weight data, gold grain data and sample geochemical results for the three analytical fractions.

LEGEND FOR DATASHEETS

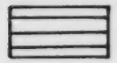
I) GRAPHIC LOG:

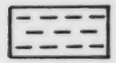
cl: clay
si: silt
sa: sand
gr: gravel
rk: rock

• spot sample

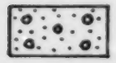
01] channel sample

TOPSOIL


LAMINATED CLAY

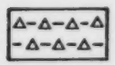

LAMINATED SILT

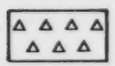
SAND

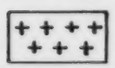

SANDY GRAVEL AND GRAVELLY SAND

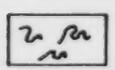
STRATIFIED WESTERN-DERIVED TILL

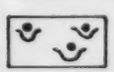
MASSIVE WESTERN-DERIVED TILL


STRATIFIED NORTHEASTERN-DERIVED TILL


MASSIVE NORTHEASTERN-DERIVED TILL


BEDROCK


CONTORTED BEDDING


ICE-RAFTED DEBRIS

II) TILL TEXTURE (-2 mm) & CARBONATE CONTENT (-0.074 mm):

Lobe: W: western derived drift
NE: northeastern derived drift

III) PEBBLE LITHOLOGY DATA:

mafic intr: mafic intrusive rocks
mafic extr: mafic extrusive rocks
felsic-int intr: felsic to intermediate intrusive rocks
felsic-int extr: felsic to intermediate extrusive rocks
schsts & gnss: schists and gneisses
metaseds: metasedimentary rocks
paleo carbs: Paleozoic carbonate rocks
other P&M: other Paleozoic and Mesozoic rocks
weath rocks: weathered rocks
others: vein quartz and feldspar, massive pyrite, siderite, kaolinite, etc.

IV) MINERALOGY OF THE -2 mm NON-MAGNETIC HEAVY MINERAL CONCENTRATE:

GT: garnet
EP: epidote
PX: pyroxene
HB: hornblende
IL: ilmenite
HM: hematite
PY: pyrite
RT: rutile
ZR: zircon
SE: sphene
SR: staurolite
GO: goethite
SD: siderite
QF: quartz and feldspar

V) HEAVY MINERAL WEIGHT DATA (-2 mm):

Total Sample: weight of sample submitted (kg wet)
+10 Clasts: weight of +2 mm pebbles (kg wet)
-10 Table Feed: weight of -2 mm table feed (kg wet)
Table Conc: weight of table concentrate (g dry)
M.I. Lights: weight of methylene iodide lights (g dry)
Conc. Total: weight of heavy concentrate (g dry)
Non Mag: weight of non-magnetic heavies (g dry)
Mag: weight of magnetic heavies (g dry)

VI) GOLD GRAIN DATA:

Diameter: gold grain diameter in microns
T: number of grains counted on the shaking table
P: number of grains counted from panning process

VII) SAMPLE GEOCHEMISTRY:

Au: gold
As: arsenic
Sb: antimony
Mo: molybdenum
Ag: silver
Cu: copper
Pb: lead
Zn: zinc
Ni: nickel
Cr: chromium
Co: cobalt
Ba: barium
Pt: platinum
Pd: palladium

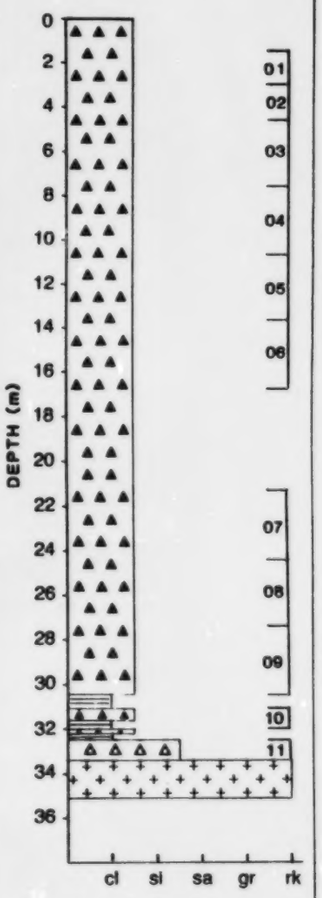
IS: insufficient sample
-5 ppb: < detection limit

Sonic Borehole Number: F87-01

Township: Roddick **Collar Elevation: 343 m**

UTM Coordinates: 5378500 m N 465275 m E

Graphic Log:



Descriptive Log:

0.0-30.5m -dark grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; moderate density; high plasticity; very calcareous; silt intraclasts (1-3 mm diameter) from 12.8-30.5 m; <5% clasts by volume; predominantly subrounded carbonate clasts up to 3.5 cms diameter; most clasts <2 cms diameter; sharp lower contact: KEEWATIN TILL.

30.5-32.5m -interbedded, dark grey, grit-free, silty clay and clay and gritty, pebbly, silty clay till; beds of clay and till are each approximately 10-30 cms thick; clay layers contain intraclasts of glaciolacustrine silt; till layers are extremely pebbly near base; till and clay layers are both very calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERSTRATIFIED WITH GLACIOLACUSTRINE CLAY.

32.5-32.6m -dark grey clay with a few grits and small pebbles near the base of unit; appears massive; non-calcareous to slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIO-LACUSTRINE CLAY.

32.6-33.4m -light grey sandy silt with numerous grits and pebbles; poorly sorted; appears massive; moderate density; slightly calcareous; approximately 10-15% subangular to angular clasts; most clasts less than 1-2 cms diameter; pebbles dominated by greywackes and felsic-intermediate intrusive lithologies; upper 2 cms of unit appears slightly washed and sorted; sharp lower contact: LABRADOREAN TILL.

33.4-35.1m -dark grey, fine grained, metasediment (greywacke); 10-15% pyrite, schistose, quartz-filled fractures, chloritic shear planes: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-01-01	1.5	3.0
F87-01-02	3.0	4.6
F87-01-03	4.6	7.6
F87-01-04	7.6	10.7
F87-01-05	10.7	13.7
F87-01-06	13.7	16.8
F87-01-07	21.3	24.4
F87-01-08	24.4	27.4
F87-01-09	27.4	30.5
F87-01-10	31.1	32.0
F87-01-11	32.6	33.4

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-01-01	W	TILL	15.5	36.5	48.0	28.7	0.37
F87-01-02	W	TILL	13.5	34.0	52.5	27.3	0.41
F87-01-03	W	TILL	16.0	35.0	49.0	26.4	0.56
F87-01-04	W	TILL	14.0	33.0	53.0	29.5	0.48
F87-01-05	W	TILL	15.0	33.0	52.0	26.6	0.55
F87-01-06	W	TILL	13.0	34.0	53.0	27.4	0.44
F87-01-07	W	TILL	12.5	32.5	55.0	25.7	0.59
F87-01-08	W	TILL	10.0	34.0	56.0	26.8	0.38
F87-01-09	W	TILL	8.5	33.0	58.5	26.5	0.45
F87-01-10	W	TILL	12.5	32.5	55.0	29.5	0.52
F87-01-11	NE	TILL	27.0	63.5	9.5	3.6	0.58

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-01-01	W	TILL	82	1.2	0.0	15.9	1.2	0.0	0.0	78.0	3.7	0.0	0.0
F87-01-02	W	TILL	28	0.0	10.7	25.0	0.0	0.0	0.0	64.3	0.0	0.0	0.0
F87-01-03	W	TILL	40	2.5	0.0	17.5	0.0	0.0	2.5	75.0	0.0	0.0	2.5
F87-01-04	W	TILL	122	2.5	2.5	22.1	1.6	0.8	0.0	68.9	0.0	0.0	1.6
F87-01-05	W	TILL	128	4.7	2.3	30.4	0.8	0.0	0.0	60.9	0.8	0.0	0.0
F87-01-06	W	TILL	148	4.7	3.4	26.4	2.0	0.0	0.7	60.8	2.1	0.0	0.0
F87-01-07	W	TILL	87	4.6	2.3	23.0	0.0	0.0	1.1	66.7	2.3	0.0	0.0
F87-01-08	W	TILL	82	2.4	1.2	15.9	0.0	2.4	0.0	75.6	2.4	0.0	0.0
F87-01-09	W	TILL	71	2.8	4.2	26.8	1.4	0.0	0.0	63.4	0.0	0.0	1.4
F87-01-10	W	TILL	124	8.8	1.6	20.0	0.0	0.0	0.8	66.4	1.6	0.0	0.8
F87-01-11	NE	TILL	266	11.0	3.0	45.1	0.0	0.4	38.7	0.0	0.0	0.0	1.5

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-01-01	W	TILL	27	33	11	8	5	13		2		1	T		T	o	
F87-01-02	W	TILL	20	20	11	15	7	11	10	1		3	T		2	T	
F87-01-03	W	TILL	16	22	20	8	4	8	18	1		1			2	4	
F87-01-04	W	TILL	11	24	14	9	4	8	20	2		4	3		1	5	
F87-01-05	W	TILL	21	19	20	4	6	4	22	1		2	1			2	
F87-01-06	W	TILL	22	32	15	9	1	6	13	T		1			1	5	
F87-01-07	W	TILL	13	39	10	14	3	8	13	T		T			T	3	
F87-01-08	W	TILL	14	29	14	16	2	5	15	1		1	1		2	1	
F87-01-09	W	TILL	16	37	19	10	4	4	9			1	T		T	2	
F87-01-10	W	TILL	12	38	17	14	1	6	11	T	1	T			T	2	
F87-01-11	NE	TILL	11	45	24	9	2	5	3			1				6	TRACE COBALTITE

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F87-01-01	W	TILL	6.3	0.5	5.8	22.7	21.0	1.7	1.1	0.6
F87-01-02	W	TILL	5.6	0.0	5.6	37.9	35.8	2.1	1.4	0.7
F87-01-03	W	TILL	5.6	0.0	5.6	35.4	33.7	1.7	1.2	0.5
F87-01-04	W	TILL	5.0	0.0	5.0	33.6	31.5	2.1	1.5	0.6
F87-01-05	W	TILL	6.1	0.2	5.9	34.9	34.1	0.8	0.5	0.3
F87-01-06	W	TILL	7.0	0.0	7.0	36.3	35.1	1.2	0.8	0.4
F87-01-07	W	TILL	5.7	0.0	5.7	28.3	25.9	2.4	1.7	0.7
F87-01-08	W	TILL	5.9	0.0	5.9	34.0	31.6	2.4	1.7	0.7
F87-01-09	W	TILL	4.7	0.0	4.7	24.6	23.2	1.4	1.0	0.4
F87-01-10	W	TILL	6.8	0.0	6.8	22.8	20.7	2.1	1.5	0.6
F87-01-11	NE	TILL	6.2	1.0	5.2	117.9	106.1	11.8	8.3	3.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-01-01	NO VISIBLE GOLD								
F87-01-02	NO VISIBLE GOLD								
F87-01-03	NO VISIBLE GOLD								
F87-01-04	NO VISIBLE GOLD								
F87-01-05	NO VISIBLE GOLD								
F87-01-06	NO VISIBLE GOLD								
F87-01-07	NO VISIBLE GOLD								
F87-01-08	NO VISIBLE GOLD								
F87-01-09	NO VISIBLE GOLD								
F87-01-10	NO VISIBLE GOLD								
F87-01-11	NO VISIBLE GOLD								EST. 2% PYRITE 200 GRAINS COBALTITE

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-01-01G	5	2.0	0.3	5	-0.1	19.5	13	52.6	32	84	17	387		
F87-01-02G	-1	2.0	0.2	3	-0.1	18.7	12	50.4	19	71	10	372		
F87-01-03G	8	1.0	0.3	3	-0.1	19.7	12	48.3	21	80	9	359		
F87-01-04G	2	2.0	0.3	3	-0.1	18.5	12	56.8	21	85	9	372		
F87-01-05G	-1	2.0	0.3	3	-0.1	19.3	12	52.6	20	77	8	424		
F87-01-06G	3	2.0	0.3	3	-0.1	18.4	11	51.1	20	68	8	323		
F87-01-07G	-1	2.0	0.3	3	-0.1	19.1	10	55.4	21	74	9	353		
F87-01-08G	-1	2.0	0.3	3	-0.1	20.4	12	62.2	21	77	8	359		
F87-01-09G	-1	2.0	0.3	3	-0.1	20.2	11	56.3	22	76	9	356		
F87-01-10G	-1	2.0	0.3	4	-0.1	20.6	11	53.9	22	68	9	494		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-01-01H	-10		9	1.3	2		94.9	34	105.0	26	3250	10	3320		
F87-01-02H	18		100	2.8	4		121.5	60	190.0	74	1070	47	2230		
F87-01-03H	19		78	2.8	11		158.9	53	590.0	133	733	80	2420		
F87-01-04H	19		59	2.6	8		90.9	52	372.0	107	714	62	2290		
F87-01-05H	-25		81	3.3	4		101.2	76	448.0	200	507	100	4440		
F87-01-06H	-10		140	2.7	13		132.3	65	258.0	177	585	82	2540		
F87-01-07H	15		59	2.6	10		154.3	58	200.0	87	737	52	1150		
F87-01-08H	18		73	2.3	17		100.4	61	158.0	96	646	59	2270		
F87-01-09H	26		110	2.5	8		132.6	56	185.0	70	771	51	1640		
F87-01-10H	-12		93	1.9	6		156.6	43	163.0	49	627	56	695		
F87-01-11H	150	196	2470	3.1	2	0.4	279.4	19	147.0	102	318	214	202		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

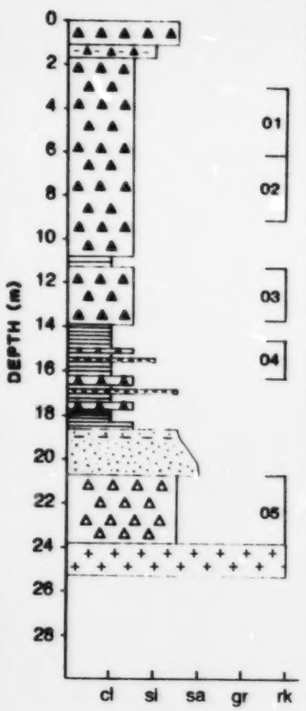
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-02

Township: Crozier **Collar Elevation: 353 m**

UTM Coordinates: 5379350 m N 461850 m E

Graphic Log:



Descriptive Log:

0.0-1.1m -light, mottled, grey and brown sandy silt with numerous grits and pebbles; poorly sorted; appears massive; deeply weathered; moderately dense; calcareous; abundant secondary carbonate; <5% clasts by volume; mainly carbonate clasts; some small (5-10 mm diameter) inclusions of glaciolacustrine clay; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOWS.

1.1-1.7m -rhythmically laminated dark grey clay and light grey-brown silt with numerous grits and pebbles (diamicton); both units are carbonate-rich; couplets 4 cms thick and of equal thickness; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

1.7-10.8m -mottled orangy-brown and dark brownish-grey grading downwards to dark grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; moderately dense; very calcareous; <5% clasts by volume; mostly subrounded carbonate clasts; some granitic clasts; most clasts <2 cm diameter; sharp lower contact: KEEWATIN TILL.

10.8-11.3m -laminated dark grey and light grey silty clay, clayey silt, and clay; a few contorted laminations noticed; calcareous; some small inclusions of glaciolacustrine silt; minor grits and small pebbles; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

11.3-13.9m -same as from 1.7-10.8m; lower grit and pebble content; very plasticity and smooth; sharp lower contact: KEEWATIN TILL.

13.9-17.7m -interstratified massive, dark grey clay, gritty, pebbly, silty clay, and light grey sandy silt; all units calcareous; clay bands up to 4 cms thick; some small rip-up clasts of glaciolacustrine silt; carbonate clasts dominate the pebble fraction; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERSTRATIFIED WITH GLACIOLACUSTRINE CLAY.

17.7-18.3m -rhythmically laminated dark grey clay and light grey silt; couplets 5-7 mm thick; clay:silt = 5:1; non-calcareous; some contorted laminations (drill induced?); grit and pebble-free; sharp lower contact: LABRADOREAN-DERIVED GLACIO-LACUSTRINE CLAY AND SILT RHYTHMITES.

18.3-20.7m -well laminated grey clay and silty clay grading downward to light greyish-green silty very fine sand and very fine sand; very well sorted; grit and pebble-free; non calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE CLAY AND SAND.

20.7-23.8m -light grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderately dense; non-calcareous; approximately 35-40% clasts by volume; most clasts 2-3 cms diameter (up to 7 cms diameter) and subangular to subrounded; greywackes dominate the pebble fraction; sharp lower contact: LABRADOREAN TILL.

23.8-25.3m -dark grey, medium grained metasediment (greywacke); high grade metamorphism; approximately 1 mm hornblende porphyroblasts; approximately 8% disseminated pyrite; pyrite along shear planes; 15% white alteration mineral: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-02-01	3.0	6.1
F87-02-02	6.1	9.1
F87-02-03	11.3	13.7
F87-02-04	14.6	16.3
F87-02-05	20.7	23.8

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-02-01	W	TILL	17.0	31.5	51.5	28.8	0.52
F87-02-02	W	TILL	17.5	32.0	50.5	27.8	0.43
F87-02-03	W	TILL	5.0	34.0	61.0	26.1	0.35
F87-02-04	W	TILL	13.0	29.0	58.0	28.6	0.45
F87-02-05	NE	TILL	29.5	64.5	6.0	4.5	0.83

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-02-01	W	TILL	102	2.0	2.0	23.6	0.0	0.0	2.0	68.6	2.0	0.0	0.0
F87-02-02	W	TILL	81	1.2	0.0	14.8	13.5	0.0	0.0	64.2	0.0	0.0	7.4
F87-02-03	W	TILL	158	4.4	0.6	26.6	0.0	0.0	0.6	65.2	2.5	0.0	0.0
F87-02-04	W	TILL	119	0.8	0.0	22.7	0.8	0.0	0.0	74.8	0.8	0.0	0.0
F87-02-05	NE	TILL	351	3.7	6.3	33.4	0.0	4.3	49.9	0.0	0.0	0.3	2.3

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-02-01	W	TILL	19	34	22	6	1	7	4	3		4	T			13	
F87-02-02	W	TILL	15	24	22	9	1	8	15	2		2			2	T	
F87-02-03	W	TILL	8	25	20	13	1	10	18			4			1	6	
F87-02-04	W	TILL	20	31	14	9	3	9	10	2		1			1	12	
F87-02-05	NE	TILL	10	40	26	6	2	2	11			3				4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F87-02-01	W	TILL	5.8	0.0	5.8	46.5	45.1	1.4	0.9	0.5
F87-02-02	W	TILL	5.2	0.0	5.2	49.1	48.3	0.8	0.6	0.2
F87-02-03	W	TILL	5.3	0.4	4.9	12.4	12.0	0.4	0.3	0.1
F87-02-04	W	TILL	6.1	0.0	6.1	59.6	59.0	0.6	0.4	0.2
F87-02-05	NE	TILL	7.8	1.1	6.7	110.5	93.0	17.5	13.0	4.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-02-01	NO VISIBLE GOLD								
F87-02-02	NO VISIBLE GOLD								
F87-02-03	NO VISIBLE GOLD								
F87-02-04	NO VISIBLE GOLD								
F87-02-05	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-02-01G	-1	2.0	0.3	3	-0.1	17.7	12	43.4	18	66	10	377		
F87-02-02G	-1	2.0	0.3	3	0.1	18.0	9	49.1	20	68	9	364		
F87-02-03G	-1	2.0	0.3	4	-0.1	17.7	12	61.8	23	76	9	358		
F87-02-04G	-1	2.0	0.3	3	-0.1	18.0	9	46.3	21	75	8	380		
F87-02-05G	-1	3.0	-0.2	-1	-0.1	23.1	4	27.4	20	90	10	547		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-02-01H	37		190	2.6	14		185.7	45	278.0	47	732	43	5100		
F87-02-02H	-25		230	3.2	4		101.2	60	264.0	82	IS	58	IS		
F87-02-03H	IS		IS	IS	IS		IS	IS	IS	IS	IS	IS	IS		
F87-02-04H	-25		85	1.7	IS		IS	IS	IS	IS	352	IS	1620		
F87-02-05H	240	212	531	0.9	3	0.4	216.8	31	59.0	158	337	179	55		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

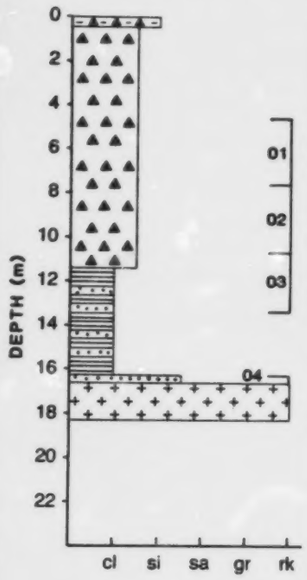
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-03

Township: Woodyatt **Collar Elevation:** 345 m

UTM Coordinates: 5377050 m N 453700 m E

Graphic Log:



Descriptive Log:

0.0-0.5m -rhythmically laminated, dark greyish-brown clay and light buff brown silt with some grits and pebbles; couplets approximately 5 cms thick; 1:1 ratio of clay to gritty silt; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

0.5-13.4m -mottled light orangy-brown, buff brown, and greyish-brown grading down to dark grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; moderately dense and compact; highly calcareous; <5% clasts by volume; clasts up to 4 cms diameter; stone content decreases downward; pebble component dominated by subrounded Paleozoic carbonates; minor grey shale, lignite, and rotted Precambrian crystallines; some small intraclasts of glaciolacustrine silt present near base of unit; sharp lower contact: KEEWATIN TILL.

13.4-16.6m -laminated dark grey clay and gritty clay with some pebbles; silty near base; moderately calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERSTRATIFIED WITH GLACIOLACUSTRINE CLAY.

16.6-16.8m -dark grey silty sand with numerous grits and pebbles; disturbed and mixed with overlying unit; appears massive; poorly sorted; loose; slightly calcareous; contains abundant angular clasts of underlying bedrock; sharp lower contact: PROBABLY WEATHERED BEDROCK.

16.8-21.3m -dark green to black mafic to ultramafic extrusive/intrusive; well sheared; coarser grained portion of core contains hornblende porphyroblasts and medium grained pyrite; finer grained portion of core contains very fine grained light green mineral (actinolite) as well as anastamosing quartz veinlets: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-03-01	4.6	7.6			
F87-03-02	7.6	10.7			
F87-03-03	10.7	13.4			
F87-03-04	16.6	16.8			

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-03-01	W	TILL	21.5	30.0	48.5	27.9	0.42
F87-03-02	W	TILL	17.5	31.0	51.5	28.5	0.43
F87-03-03	W	TILL	6.0	35.5	58.5	25.6	0.46
F87-03-04	NE	TILL	32.0	42.0	26.0	5.9	0.92

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-03-01	W	TILL	84	3.6	0.0	28.6	0.0	0.0	0.0	63.1	4.8	0.0	0.0
F87-03-03	W	TILL	31	3.2	3.2	22.6	0.0	0.0	3.2	67.7	0.0	0.0	0.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-03-01	W	TILL	12	56	10	4	1	8	6	1		1	1		T	10	RARE TRACE BARITE
F87-03-02	W	TILL	12	38	17	14	4	5	5	1		1	T		3	10	
F87-03-03	W	TILL	16	28	11	12	4	12	13	1	1	T	T		2	4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F87-03-01	W	TILL	5.4	0.6	4.8	18.5	17.9	0.6	0.5	0.1
F87-03-02	W	TILL	6.8	0.6	6.2	28.5	27.9	0.6	0.4	0.2
F87-03-03	W	TILL	5.9	0.0	5.9	8.8	8.6	0.2	0.1	0.1

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-03-01	NO VISIBLE GOLD								
F87-03-02	NO VISIBLE GOLD								
F87-03-03	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-03-01G	-1	3.0	0.2	3	-0.1	17.9	10	48.4	18	68	9	401		
F87-03-02G	-1	2.0	0.3	3	-0.1	18.8	10	51.6	22	59	9	347		
F87-03-03G	-1	2.0	0.3	4	-0.1	18.4	14	49.8	20	68	9	371		
F87-03-04G	-1	4.0	0.2	1	-0.1	18.9	5	46.2	40	126	14	460		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-03-01H	-25		190	1.3	2		86.2	32	226.0	62	536	52	1200		
F87-03-02H	-25		95	2.1	5		80.4	54	80.0	52	IS	68	IS		
F87-03-03H	IS		IS	IS	IS		IS	IS	IS	IS	IS	IS	IS		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

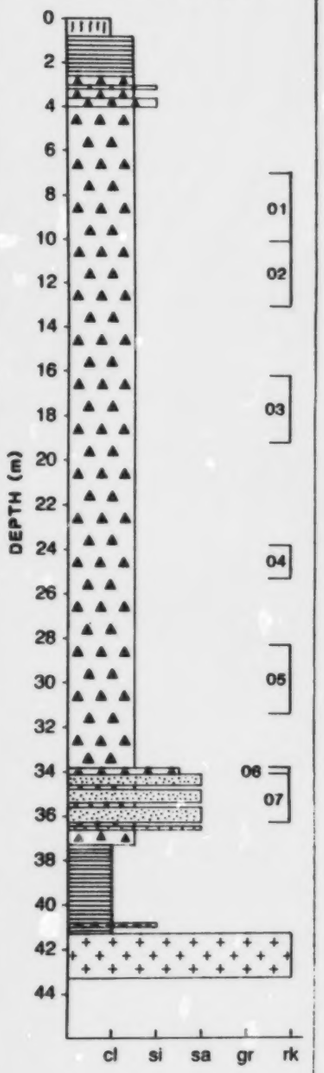
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-04

Township: Woodyatt **Collar Elevation:** 341 m

UTM Coordinates: 5378340 m N 450425 m E

Graphic Log:



Descriptive Log:

0.0-0.9m -topsoil; gradational lower contact.

0.9-2.6m -rhythmically laminated dark greyish-brown clay and silt; grit and pebble-free; calcareous; sharp lower contact: EMERSON PHASE GLACIO-LACUSTRINE SILT AND CLAY.

2.6-4.0m -dark greyish-brown clay and light buff gritty silt and gritty, pebbly silty clay and clayey silt; rhythmically laminated; couplets approximately 10 cms thick; calcareous; numerous subangular Precambrian clasts and subrounded Paleozoic carbonates; becomes less well stratified downwards; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

4.0-33.8m -dark greyish-brown grading downwards to dark grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; moderate density; highly calcareous; <5% clasts by volume; clasts subangular to subrounded and mainly Paleozoic carbonates; most clasts are <3 cms diameter; some small silt intraclasts noticed between 19.2-20.1m; sharp lower contact: KEEWATIN TILL.

33.8-34.1m -grey silty sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density; calcareous; 10% clasts by volume; clasts subangular and up to 2 cms diameter; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOW.

34.1-37.3m -interstratified light buff grey fine to coarse sand and dark grey clayey silt and silty clay with numerous grits and pebbles; sand layers are very well sorted, calcareous, and contain very few pebbles; till layers are calcareous and up to 15 cms thick; approximately 5% clasts by volume; up to 1.5 cms diameter; mainly carbonate clasts; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERSTRATIFIED WITH GLACIOLACUSTRINE SAND.

37.3-40.8m -laminated dark grey clay with minor light greyish-green silt; grit and pebble-free; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

40.8-41.0m -light greyish-green silt; grit and pebble-free; appears massive; slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIO-LACUSTRINE SILT.

41.0-41.3m -dark grey clay and crushed up bedrock; drill-induced mixing; clay is slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE CLAY.

41.3-43.3m -medium grained, equigranular, granodiorite; hornblende greater than biotite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-04-01	7.0	10.1
F87-04-02	10.1	13.1
F87-04-03	16.2	19.2
F87-04-04	23.8	25.3
F87-04-05	28.3	31.4
F87-04-06	33.8	34.1
F87-04-07	34.1	36.3

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-04-01	W	TILL	20.0	38.0	42.0	28.4	0.44
F87-04-02	W	TILL	26.0	36.0	38.0	28.1	0.38
F87-04-03	W	TILL	27.0	33.0	40.0	29.6	0.57
F87-04-04	W	TILL	22.5	35.5	42.0	30.6	0.40
F87-04-05	W	TILL	22.5	27.5	50.0	28.1	0.43
F87-04-06	W	TILL	45.0	40.0	15.0	39.5	0.37

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-04-01	W	TILL	142	4.9	3.5	26.7	1.4	0.0	0.0	58.5	4.2	0.7	0.0
F87-04-02	W	TILL	177	1.1	7.3	24.3	4.0	0.0	0.0	59.3	2.8	0.0	1.2
F87-04-03	W	TILL	157	6.4	0.6	21.0	0.6	0.6	0.0	65.0	3.8	0.0	1.9
F87-04-04	W	TILL	159	3.1	0.6	32.0	1.9	0.0	0.6	56.6	5.0	0.0	0.0
F87-04-05	W	TILL	113	3.5	4.4	22.1	5.2	0.0	0.0	62.8	0.9	0.0	0.9
F87-04-07	W	SAND	36	13.9	2.8	25.0	0.0	0.0	2.8	52.8	2.8	0.0	0.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-04-01	W	TILL	18	37	15	13	2	7	8			T			T	5	
F87-04-02	W	TILL	15	24	12	8	6	13	15	1		4	1		1	2	
F87-04-03	W	TILL	16	32	9	13	5	9	15	T	T	1	T		T	4	
F87-04-04	W	TILL	11	37	16	6	5	9	15	1		T	T		T	2	
F87-04-05	W	TILL	15	26	12	13	6	13	15	T	T	T			T	2	
F87-04-07	W	SAND	20	20	15	14	2	11	14	1		2			1	11	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F87-04-01	W	TILL	5.1	0.0	5.1	37.2	36.3	0.9	0.6	0.3
F87-04-02	W	TILL	5.9	0.0	5.9	44.2	43.1	1.1	0.8	0.3
F87-04-03	W	TILL	6.2	0.2	6.0	53.6	48.8	4.8	3.4	1.4
F87-04-04	W	TILL	5.6	0.1	5.5	54.7	49.8	4.9	3.4	1.5
F87-04-05	W	TILL	5.1	0.1	5.0	69.1	68.2	0.9	0.7	0.2
F87-04-07	W	SAND	3.6	0.1	3.5	141.9	134.0	7.9	5.4	2.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-04-01	NO VISIBLE GOLD								
F87-04-02	NO VISIBLE GOLD								
F87-04-03	NO VISIBLE GOLD								
F87-04-04	NO VISIBLE GOLD								
F87-04-05	NO VISIBLE GOLD								
F87-04-07	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-04-01G	-1	2.0	0.3	3	-0.1	17.9	11	52.1	18	64	8	371		
F87-04-02G	3	2.0	0.3	3	-0.1	18.5	9	45.2	18	62	7	347		
F87-04-03G	-1	2.0	0.2	3	-0.1	21.3	9	46.9	18	63	8	347		
F87-04-04G	-1	2.0	0.3	3	-0.1	17.4	12	49.8	19	57	8	322		
F87-04-05G	-1	2.0	0.3	3	-0.1	18.2	10	46.8	18	62	9	341		
F87-04-06G	-1	2.0	0.2	3	-0.1	9.9	6	24.8	11	45	5	301		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-04-01H	29		83	2.5	5		98.2	78	190.0	66	540	58	2940		
F87-04-02H	2100		77	2.6	3		220.8	56	412.0	60	653	56	2470		
F87-04-03H	-5		65	2.4	6		95.9	78	170.0	95	759	61	2960		
F87-04-04H	-10		76	2.9	7		77.1	66	149.0	91	714	56	1430		
F87-04-05H	-10		381	3.4	6		114.0	80	142.0	130	513	84	3820		
F87-04-07H	14		72	2.0	7	0.3	90.4	71	155.0	77	532	60	898		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

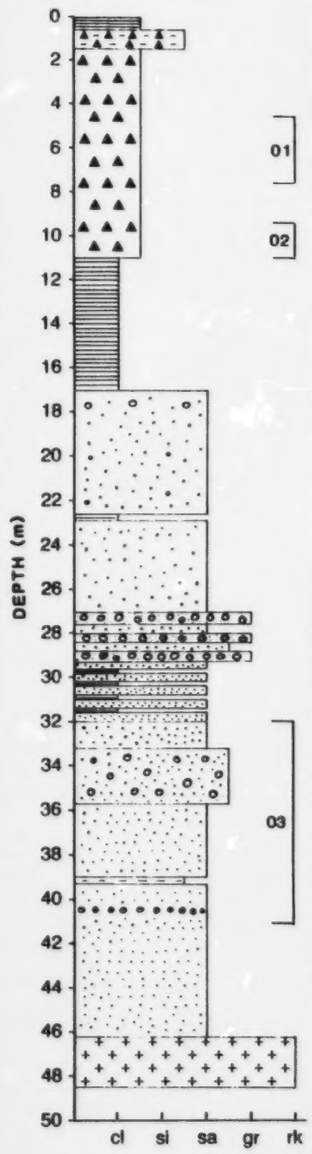
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-05

Township: Aylsworth **Collar Elevation:** 334 m

UTM Coordinates: 5374250 m N 445325 m E

Graphic Log:



Descriptive Log:

0.0-0.6m -mottled greyish-brown and orangy-brown silty clay; grit and pebble-free; appears massive to faintly laminated; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

0.6-2.3m -mottled greyish-brown and orangy-brown silt with numerous grits and pebbles and dark grey clay; rhythmically laminated; couplets 3-30 cms thick; clay layers up to 5 cms thick; calcareous; mainly subrounded carbonate clasts up to 2.5 cms diameter; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

2.3-11.0m -mottled brownish-grey and brown grading downwards to dark grey clayey silt to silty clay with numerous grits and pebbles; poorly sorted; appears massive; moderately dense; calcareous; <5% clasts by volume; mainly subrounded carbonate clasts up to 2 cms diameter; a few subangular Precambrian crystallines up to 5 cms diameter encountered at 10.7 m; sharp lower contact: KEEWATIN TILL.

11.0-17.1m -rhythmically laminated dark grey clay and light grey silty clay grading downward to silty very fine sand; a few gritty horizons in upper 0.3 m; couplets range from 2 to 5 cms thick and thicken downward; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SAND, SILT, AND CLAY RHYTHMITES.

17.1-27.0m -grey to greenish-grey silty very fine sand to pebbly medium and coarse sand; mainly very fine sand; slightly calcareous; well sorted; well bedded; a few subrounded mafic volcanic clasts, 1.5 cms diameter encountered at 17.7m; some clay laminations noticed at 22.6 m; 1 cm thick; calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

27.0-29.3m -poorly sorted gravelly and pebbly medium to coarse sand; abundant silt and clayey silt in the upper 0.3 m; remainder of unit is very well sorted; non-calcareous; sands are moderately sorted; 35% clasts by volume; clasts up to 8 cms diameter; mainly mafic-intermediate extrusive and intrusive lithologies; some calcareous clay balls encountered in the gravel component; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

29.3-32.0m -light grey fine to very fine sand and dark grey clay; rhythmically laminated; couplets 0.2 m thick; clay layers up to 1 cm thick; sands are slightly calcareous; clays are moderately calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SAND AND CLAY RHYTHMITES.

32.0-45.7m -grey fine to medium sand with some pebbly and small cobbly medium to coarse sand; moderately sorted; well bedded; non-calcareous; sands rich in dark minerals; pebbles are subangular to subrounded; variety of mafic to felsic intrusive and extrusive lithologies; one bed of light grey silty very fine sand and sandy silt between 39.0 and 39.3 m; well laminated; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

45.7-45.9m -BOULDER; NO RECOVERY.

45.9-48.5m -light greenish grey, fine grained, hornblende porphyroblastic, feldspathic, metasediment: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-05-01	4.6	7.6
F87-05-02	9.4	11.0
F87-05-03	32.0	41.1

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-05-01	W	TILL	22.0	41.5	36.5	31.8	0.47
F87-05-02	W	TILL	26.0	36.0	38.0	31.1	0.46

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-05-01	W	TILL	314	4.5	1.6	21.6	1.9	0.6	0.9	64.3	2.5	0.3	1.5
F87-05-02	W	TILL	197	6.1	0.5	25.9	0.5	0.0	1.0	63.5	1.5	0.0	1.0
F87-05-03	NE	SAND	338	3.6	34.9	43.4	4.1	10.7	0.0	1.2	0.0	0.6	1.5

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-05-01	W	TILL	30	20	12	6	2	7	18	2		1	T		2	3	
F87-05-02	W	TILL	18	35	13	5	3	10	13	1		1			1	1	
F87-05-03	NE	SAND	9	48	15	14	2	4	7	1		1				1	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-05-01	W	TILL	6.4	0.3	6.1	76.9	75.1	1.8	1.2	0.6
F87-05-02	W	TILL	5.6	0.2	5.4	60.8	56.9	3.9	2.6	1.3
F87-05-03	NE	SAND	7.7	1.1	6.6	288.1	238.2	49.9	38.4	11.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-05-01	NO VISIBLE GOLD								
F87-05-02	NO VISIBLE GOLD								
F87-05-03	100 X 100			1				1	EST. 5% PYRITE
								1	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-05-01G	-1	2.0	0.2	3	-0.1	16.5	12	51.1	17	71	7	440		
F87-05-02G	-1	2.0	0.2	4	-0.1	17.0	12	37.5	18	73	9	397		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-05-01H	-12		111	3.5	8		144.9	89	123.0	142	708	83	2420		
F87-05-02H	-10		74	2.5	7		104.4	67	173.0	69	676	54	1430		
F87-05-03H	110	347	681	1.8	1	0.1	129.0	21	48.0	95	275	88	33		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

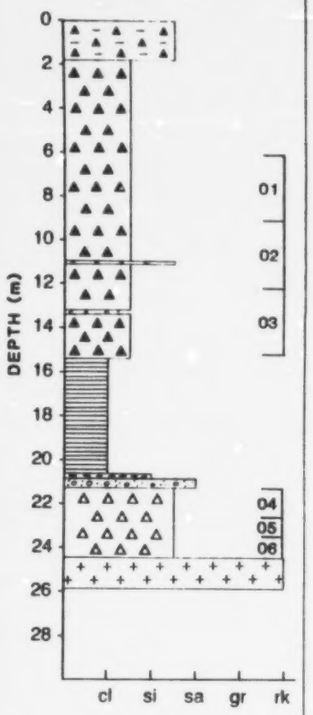
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-06

Township: Aylsworth **Collar Elevation: 334 m**

UTM Coordinates: 5375500 m N 439850 m E

Graphic Log:



Descriptive Log:

0.0-1.8m -mottled light buff-brown and orangy-brown sandy silt with numerous grits and pebbles and dark grey clay; rhythmically laminated; couplets 5-10 cms thick; clay layers up to 1 cm thick; silty layers are till-like and contain <5% clasts by volume; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

1.8-11.0m -mottled brown and orangy-brown grading downward to dark grey silty clay loam with numerous grits and pebbles; poorly sorted; appears massive; moderate density; plasticity; <5% clasts by volume; mostly subrounded carbonate clasts <3 cms diameter; sharp lower contact: KEEWATIN TILL.

11.0-11.1m -dark grey sandy silt with numerous grits and pebbles; slightly coarser and grittier than overlying till; sharp lower contact: KEEWATIN TILL.

11.1-13.3m -same as from 1.8-11.0m although slightly more clay-rich; sharp lower contact: KEEWATIN TILL.

13.3-13.4m -dark grey silty clay with numerous grits and pebbles; same as from 11.1-13.3m except grittier and pebblier; sharp lower contact: KEEWATIN TILL.

13.4-15.4m -same as from 11.1-13.3m; sharp lower contact: KEEWATIN TILL.

15.4-20.9m -dark greyish-brown to brownish-grey clay and light greyish-green silt; rhythmically laminated; grit and pebble-free; calcareous; couplets up to 5 cms thick; 1.5 cms thick at unit top, 5 cms thick at middle, and 2-3 cms thick at unit base; silt laminations only 1-2 mms thick; some small intraclasts of glaciolacustrine silt (2-3 mms diameter) present within the clay units; lower 0.2 m consists of massive, grit and pebble-free grey silt; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

20.9-21.3m -greyish-green fine to medium sand with some cobbles and pebbles; becomes progressively more silty downward; non-calcareous; moderately to well sorted; 5% clasts by volume; mainly subangular felsic intrusive lithologies; sharp lower contact: WASHED LABRADOREAN TILL.

21.3-24.5m -light olive-grey silty very fine sand grading down to a sandy silt with numerous grits and pebbles; poorly sorted; appears massive; low grading down to moderate-high density; slightly calcareous; 10% clasts by volume; most clasts composed of subangular felsic-intermediate intrusives and metasediments; sharp lower contact: LABRADOREAN TILL.

24.5-25.9m -dark grey, fine grained, granular chloritic, amphibole schist; contains feldspar and mafic platy minerals: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-06-01	6.1	9.1
F87-06-02	9.1	12.2
F87-06-03	12.2	15.2
F87-06-04	21.3	22.6
F87-06-05	22.6	23.5
F87-06-06	23.5	24.5

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-06-01	W	TILL	32.0	34.0	34.0	32.5	0.45
F87-06-02	W	TILL	32.0	34.0	34.0	30.9	0.39
F87-06-03	W	TILL	28.0	31.5	40.5	31.8	0.46
F87-06-04	NE	TILL	60.5	36.5	3.0	3.1	0.53
F87-06-05	NE	TILL	45.0	41.5	13.5	3.6	0.76
F87-06-06	NE	TILL	44.5	46.0	9.5	3.4	0.64

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-06-01	W	TILL	295	5.8	0.3	24.4	1.7	0.7	0.0	61.7	4.1	0.3	1.0
F87-06-03	W	TILL	226	2.2	2.7	25.6	0.0	1.3	0.0	63.7	2.7	0.0	1.8
F87-06-04	NE	TILL	448	12.3	14.5	52.9	6.2	11.8	0.0	0.7	0.0	0.0	1.6
F87-06-05	NE	TILL	417	5.0	11.5	52.3	5.3	2.6	19.2	0.7	0.0	0.5	2.9
F87-06-06	NE	TILL	237	4.2	12.2	16.8	42.6	7.2	16.9	0.0	0.0	0.0	0.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-06-01	W	TILL	18	38	10	9	3	9	12	T		1	T		T	2	
F87-06-02	W	TILL	19	35	16	5	6	7	7	1		3			1	1	
F87-06-03	W	TILL	18	35	17	6	2	6	14	1					1	1	
F87-06-04	NE	TILL	10	35	32	11	4	4	4			T				9	
F87-06-05	NE	TILL	7	29	45	6	1	7	3			2			T	6	
F87-06-06	NE	TILL	10	44	36	5	T	1	3	1		T	T			6	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-06-01	W	TILL	6.3	0.3	6.0	71.7	66.0	5.7	3.9	1.8
F87-06-02	W	TILL	6.0	0.3	5.7	52.8	48.7	4.1	2.8	1.3
F87-06-03	W	TILL	6.6	0.2	6.4	48.9	46.3	2.6	1.8	0.8
F87-06-04	NE	TILL	9.7	2.2	7.5	176.7	147.4	29.3	19.1	10.2
F87-06-05	NE	TILL	7.9	1.5	6.4	139.4	123.3	16.1	10.7	5.4
F87-06-06	NE	TILL	7.3	0.2	7.1	178.0	164.1	13.9	9.7	4.2

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-06-01	NO VISIBLE GOLD								
F87-06-02	NO VISIBLE GOLD								
F87-06-03	NO VISIBLE GOLD								
F87-06-04	NO VISIBLE GOLD								
F87-06-05	NO VISIBLE GOLD								
F87-06-06	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-06-01G	-1	3.0	0.3	2	-0.1	16.4	8	40.9	16	67	8	305		
F87-06-02G	-1	2.0	0.3	3	-0.1	14.8	11	41.0	16	63	8	408		
F87-06-03G	2	2.0	0.3	3	-0.1	17.9	10	49.7	18	67	8	383		
F87-06-04G	6	1.0	-0.2	-1	-0.1	13.3	2	18.6	14	158	8	553		
F87-06-05G	-1	2.0	-0.2	1	-0.1	25.2	4	35.4	26	134	11	503		
F87-06-06G	-1	2.0	-0.2	2	-0.1	18.9	3	29.5	20	91	12	612		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-06-01H	-5		84	2.8	6		103.4	69	729.0	83	649	56	26		
F87-06-02H	-11		81	2.4	6		77.4	89	122.0	90	673	60	1590		
F87-06-03H	30		76	2.6	7		73.0	67	218.0	91	605	58	1760		
F87-06-04H	66	54	278	1.4	2	0.3	141.0	33	60.0	146	455	197	139		
F87-06-05H	120	11	428	1.3	2	0.1	119.4	33	79.0	90	403	122	181		
F87-06-06H	460	709	317	1.8	10	0.2	139.7	27	36.0	109	356	118	81		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

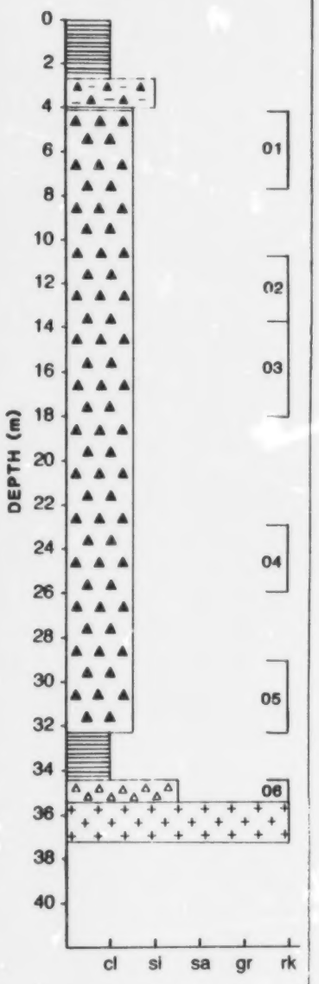
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-07

Township: Lash **Collar Elevation:** 344 m

UTM Coordinates: 5387450 m N 438950 m E

Graphic Log:



Descriptive Log:

0.0-2.7m -mottled light greyish-brown and brownish-grey laminated silty clay and silt; grit and pebble-free; rhythmically laminated in places; distinct 5 cm thick red clay layer with sharp upper and lower contacts occurs at 0.3 m down; sharp lower contact; EMERSON PHASE GLACIOLACUSTRINE CLAY AND SILT.

2.7-4.0m -light buff silt with numerous grits and pebbles and dark grey clay; rhythmically laminated; couplets increase in thickness from 5-15 cms downwards; clay layers 1 cm thick; calcareous; silt layers contain <5% clasts by volume; mainly carbonate pebbles; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

4.0-4.1m -dark grey silty clay and clay; laminated; calcareous; a few grits present; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

4.1-32.3m -dark grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; medium density; calcareous; very plasticity and soft; <5% clasts by volume; most clasts subrounded carbonates; some weathered Precambrian pebbles; most clasts <1 cm diameter; some small clasts of glaciolacustrine silt and gritty silt; sharp lower contact: KEEWATIN TILL.

32.3-34.4m -dark grey clay with thin laminations of buff-grey silt; silt laminations 1-3 mms thick; carbonate content moderate to low; sharp lower contact: KEEWATIN/LABRADOREAN-DERIVED GLACIO-LACUSTRINE CLAY.

34.4-35.4m -light greenish-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; loose and soft; non-calcareous; 5% clasts by volume; clasts subangular and up to 2 cms diameter; mainly greywackes; sharp lower contact: LABRADOREAN TILL.

35.4-37.2m -pinkish, fine grained biotite granodiorite with amphibolite xenoliths and 5% hornblende clots: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-07-01	4.1	7.6
F87-07-02	10.7	13.7
F87-07-03	13.7	18.0
F87-07-04	22.9	25.9
F87-07-05	29.0	32.3
F87-07-06	34.4	35.4

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-07-01	W	TILL	15.5	32.5	52.0	28.8	0.46
F87-07-02	W	TILL	15.0	33.0	52.0	27.7	0.43
F87-07-03	W	TILL	15.0	34.5	50.5	26.8	0.41
F87-07-04	W	TILL	15.5	38.5	46.0	28.8	0.43
F87-07-05	W	TILL	10.5	32.0	57.5	27.6	0.40

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-07-01	W	TILL	139	2.2	2.2	17.9	0.0	0.0	0.0	74.1	2.9	0.0	0.7
F87-07-02	W	TILL	265	3.0	1.5	27.9	0.0	0.0	1.1	63.0	3.1	0.0	0.4
F87-07-04	W	TILL	120	2.5	3.3	21.6	0.0	1.7	0.8	70.0	0.0	0.0	0.0
F87-07-06	NE	TILL	504	1.4	0.6	34.3	5.8	0.0	55.6	0.0	0.0	0.0	2.4

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-07-01	W	TILL	18	20	17	13	4	12	12			3			1	2	
F87-07-02	W	TILL	18	20	13	10	4	11	21	1		1			1	1	
F87-07-04	W	TILL	19	26	11	11	2	8	20	T		2	1		T	1	
F87-07-06	NE	TILL	2	67	7	6	6	3	8	1		T	T			1	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-07-01	W	TILL	6.6	0.1	6.5	67.4	66.4	1.0	0.7	0.3
F87-07-02	W	TILL	5.3	0.1	5.2	33.3	32.8	0.5	0.3	0.2
F87-07-04	W	TILL	5.8	2.1	3.7	35.9	34.8	1.1	0.7	0.4
F87-07-06	NE	TILL	8.0	1.9	6.1	50.2	34.0	16.2	9.0	7.2

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-07-01	NO VISIBLE GOLD								EST. 3% PYRITE
F87-07-02	NO VISIBLE GOLD								ABRADED NATIVE COPPER.
F87-07-04	NO VISIBLE GOLD								1 GRAIN 50 X 50
F87-07-06	NO VISIBLE GOLD								2 GRAINS 50 X 75
									2 GRAINS 50 X 100
									1 GRAIN 75 X 200
									1 GRAIN 75 X 250
									1 GRAIN 100 X 200
									1 GRAIN 125 X 175
									1 GRAIN 150 X 225
									1 GRAIN 225 X 225
									1 GRAIN 300 X 400

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-07-01G	-1	2.0	0.2	4	-0.1	16.9	9	43.7	17	57	7	677		
F87-07-02G	-1	2.0	0.3	4	-0.1	16.1	11	45.1	18	47	10	420		
F87-07-03G	-1	2.0	0.2	4	0.1	19.4	12	48.6	18	45	9	401		
F87-07-04G	5	2.0	0.2	4	-0.1	17.3	11	48.9	19	58	8	425		
F87-07-05G	-1	2.0	0.3	5	-0.1	18.4	12	50.3	20	43	8	415		
F87-07-06G	-1	1.0	-0.2	-1	0.1	14.0	6	31.6	20	72	6	486	-5	-1

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-07-01H	-29		110	3.3	5		106.2	92	158.0	108	523	76	1800		
F87-07-02H	-62		110	4.9	IS		IS	IS	IS	IS	541	IS	2670		
F87-07-04H	-25		64	3.7	4		242.8	98	192.0	184	421	92	1940		
F87-07-06H	48	55	72	2.1	5	0.6	211.0	23	41.3	68	242	131	313	-13	5

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

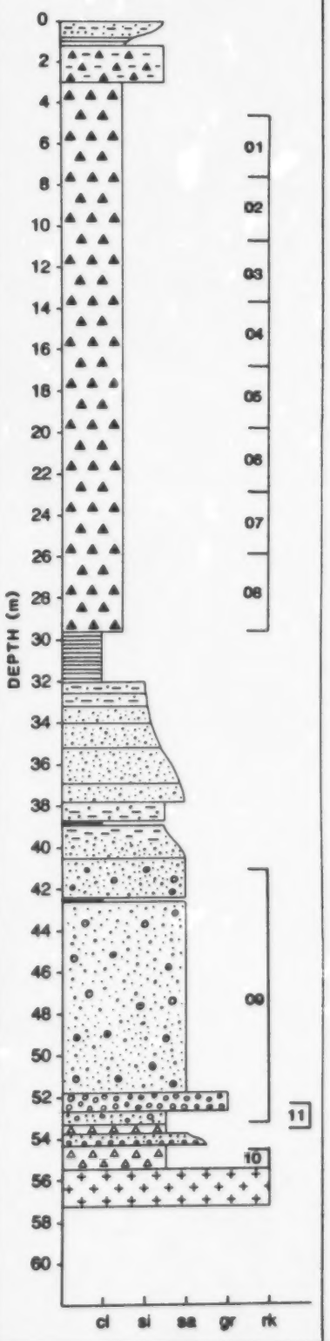
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-07-06M	-5	-4	2	0.8	2		37.2	61	30.5	26	567	18	33	-19	-4

Sonic Borehole Number: F87-08

Township: Dobie **Collar Elevation:** 348 m

UTM Coordinates: 5390000 m N 437225 m E

Graphic Log:



Descriptive Log:

0.0-1.2m -mottled brownish-grey and grey silty clay grading down to sandy silt; massive to laminated; calcareous; carbonate concretions present; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY AND SILT.

1.2-2.9m -light greyish-brown sandy silt with a few grits and pebbles and dark grey clay; rhythmically laminated; couplets 3-10 cms thick; clay layers 1 cm thick; calcareous; highly oxidized; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

2.9-29.6m -mottled dark greyish-brown and orangy-brown grading down to dark grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; moderately dense; calcareous; pebble-rich and pebble-poor zones; very pebble-poor near base of unit; <5% clasts by volume; most clasts <2 cms diameter; predominantly subrounded carbonate clasts; some inclusions of glaciolacustrine silt near base of unit; two thin layers (1-2 cms) of gritty and pebbly sandy silt encountered at 28.0 and 29.4m; sharp lower contact: KEEWATIN TILL (DEBRIS FLOWS NEAR BASE).

29.6-32.0m -dark grey clay and silty clay with thin laminations of light grey silt; rhythmically laminated; couplets increase from 0.5 cms to 4 cms thick downwards; silt laminae 1-2 mms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY RHYTHMITES.

32.0-38.7m -light grey to greenish-grey silty very fine sand and very fine sand grading to gravelly and pebbly medium to coarse sand; gravelly zone from 51.8-52.7m; a few grits noticed; well sorted; faint stratification present; non-calcareous; dark grey, calcareous, clay laminations (1.5 cms thick) at 36.9, 38.7, and 42.4m; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SANDY RHYTHMITES GRADING DOWN TO GLACIOFLUVIAL SAND AND GRAVEL.

53.3-53.7m -light olive-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density; very low carbonate content; 10% clasts by volume; mostly subangular metagreywackes; sharp lower contact: LABRADOREAN-DERIVED DIAMICTON.

53.7-54.3m -grey fine-medium sand grading down to pebbly coarse sand and pebble gravel; well sorted and stratified; clasts subangular and up to 3 cms diameter; rich in dark greywackes; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL.

54.3-55.5m -light olive-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; upper 0.3m less silty and probably washed; moderate density; low carbonate content; approximately 35% clasts by volume; most clasts subangular, <5 cms diameter, and composed of metagreywackes; sharp lower contact: LABRADOREAN TILL.

55.5-57.3m -pinkish, fine grained intermediate to felsic tuff to lapilli tuff; amphibolite grade metamorphism; foliated to gneissose; stretched lapilli-sized lithic clasts interbedded with ash-sized portions: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-08-01	4.6	7.6	F87-08-07	22.9	25.9
F87-08-02	7.6	10.7	F87-08-08	25.9	29.6
F87-08-03	10.7	13.7	F87-08-09	41.1	53.3
F87-08-04	13.7	16.8	F87-08-10	54.6	55.5
F87-08-05	16.8	19.8	F87-08-11	52.4	53.6
F87-08-06	19.8	22.9			

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-07-06	NE	TILL	50.0	45.0	5.0	3.4	0.64
F87-08-01	W	TILL	12.5	34.0	53.5	29.3	0.47
F87-08-02	W	TILL	13.0	34.0	53.0	27.3	0.57
F87-08-03	W	TILL	15.0	31.5	53.5	27.9	0.47
F87-08-04	W	TILL	15.0	32.0	53.0	26.7	0.59
F87-08-05	W	TILL	14.0	32.0	54.0	26.2	0.36
F87-08-06	W	TILL	17.0	31.0	52.0	26.8	0.56
F87-08-07	W	TILL	13.5	32.0	54.5	26.9	0.44
F87-08-08	W	TILL	13.0	34.0	53.0	29.4	0.43
F87-08-10	NE	TILL	67.0	31.0	2.0	4.7	0.58

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-08-01	W	TILL	131	2.3	4.6	17.5	0.8	0.0	0.0	73.3	1.5	0.0	0.0
F87-08-03	W	TILL	86	2.3	2.3	23.3	2.3	1.2	0.0	66.3	0.0	1.2	1.2
F87-08-05	W	TILL	106	0.0	0.0	29.2	0.0	0.9	0.0	65.1	1.9	0.0	3.8
F87-08-07	W	TILL	116	7.8	1.7	18.1	2.6	0.0	2.6	66.4	0.9	0.0	0.0
F87-08-09	NE	SAND	339	1.8	6.5	38.6	10.6	2.9	36.6	1.2	0.0	0.0	1.8
F87-08-10	NE	TILL	436	2.3	3.0	36.2	4.4	0.0	53.5	0.0	0.0	0.0	0.7
F87-08-11	NE	TILL	607	4.4	5.3	27.5	2.0	1.6	58.0	0.0	0.0	0.0	1.2

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-08-01	W	TILL	20	26	27	8	5	5	8	T		1		T	T	T	
F87-08-03	W	TILL	24	36	11	7	1	4	15	T		1	1		T	1	
F87-08-05	W	TILL	19	31	22	6	3	5	13	T		1			T	1	
F87-08-07	W	TILL	17	29	18	5	2	7	19			T	T		3	3	
F87-08-09	NE	SAND	10	49	21	8	2	3	6	1		T			T	6	
F87-08-10	NE	TILL	5	51	20	5	1	3	15	T		T			T	3	
F87-08-11	NE	TILL	16	36	22	8	2	3	11		2	T				9	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F87-08-01	W	TILL	5.1	0.1	5.0	41.5	40.0	1.5	1.0	0.5
F87-08-03	W	TILL	5.1	0.0	5.1	29.4	27.8	1.6	1.1	0.5
F87-08-05	W	TILL	5.7	1.0	4.7	38.8	36.5	2.3	1.6	0.7
F87-08-07	W	TILL	5.9	0.1	5.8	23.5	21.8	1.7	1.2	0.5
F87-08-09	NE	SAND	7.0	0.5	6.5	124.8	101.0	23.8	17.3	6.5
F87-08-10	NE	TILL	6.9	3.0	3.9	105.5	85.9	19.6	14.6	5.0
F87-08-11	NE	TILL	8.3	1.6	6.7	237.2	195.5	41.7	32.3	9.4

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-08-01	NO VISIBLE GOLD								
F87-08-03	NO VISIBLE GOLD								
F87-08-05	NO VISIBLE GOLD								
F87-08-07	NO VISIBLE GOLD								
F87-08-09	75 X 100	1	1					2	EST. 10% PYRITE
								2	
F87-08-10	NO VISIBLE GOLD								
F87-08-11	125 X 175			1				1	EST. 25% PYRITE
								1	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-08-01G	-1	3.0	0.3	4	-0.1	19.0	11	51.7	20	40	10	434		
F87-08-02G	-1	2.0	0.3	3	-0.1	18.7	10	49.0	21	35	9	454		
F87-08-03G	-1	3.0	0.3	4	-0.1	19.5	10	50.3	20	38	9	442		
F87-08-04G	-1	2.0	0.2	4	-0.1	19.0	12	56.7	21	50	9	397		
F87-08-05G	-1	2.0	0.3	4	-0.1	18.0	12	49.6	19	46	11	428		
F87-08-06G	-1	2.0	0.3	4	-0.1	16.4	12	47.8	21	39	9	414		
F87-08-07G	-1	2.0	0.3	4	-0.1	16.1	10	49.5	18	40	9	399		
F87-08-08G	4	2.0	0.3	3	-0.1	18.5	12	49.9	18	36	9	414		
F87-08-10G	8	3.0	-0.2	-1	-0.1	21.7	3	31.7	20	69	5	490	-5	-1
F87-08-11G	3	3.0	0.2	-1	-0.1	19.2	4	29.3	18	76	5	452	-5	-1

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-08-01H	-24		89	4.4	3		134.8	50	122.0	102	671	64	2630		
F87-08-03H	600		130	2.2	5		88.8	80	302.0	58	652	54	2260		
F87-08-05H	-16		75	2.6	4		134.6	62	214.0	76	579	60	1470		
F87-08-07H	-10		59	4.1	4		137.2	68	194.0	52	536	50	2180		
F87-08-09H	200	228	265	2.6	10	0.1	303.6	25	85.8	81	355	135	87	-13	8
F87-08-10H	180	175	408	2.4	4	0.8	387.7	26	101.9	116	323	204	35	-7	5
F87-08-11H	210	84	257	2.8	5	0.7	283.8	27	73.0	100	332	180	54	-6	4

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

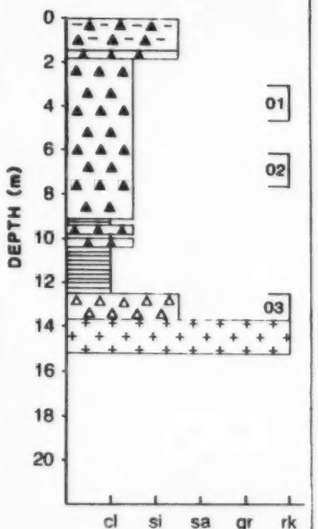
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-08-09M	-5	-4	8	1.2	3		89.8	53	61.8	101	3520	49	28	-19	-4
F87-08-10M	9	-6	16	1.3	21		105.5	18	51.5	134	3080	51	19	-30	318
F87-08-11M	-5	4	13	0.9	2		62.4	18	48.9	75	3230	41	40	-11	-2

Sonic Borehole Number: F87-09

Township: Shenston **Collar Elevation:** 350 m

UTM Coordinates: 5391600 m N 427450 m E

Graphic Log:



Descriptive Log:

0.0-1.8m -mottled light buff-grey, brown, and orangy-brown sandy silt with numerous grits and small pebbles and dark grey clay; rhythmically laminated; couplets 1-8 cms thick; clay laminations 0.5 cms thick; calcareous; mainly carbonate clasts; most crystalline clasts rotted; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

1.8-9.1m -mottled brown, orangy-brown, and greyish-brown to brownish-grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; fairly dry and moderately dense; plasticity; calcareous; 2-3% clasts by volume; mainly subrounded carbonate clasts; most clasts <2 cms diameter; sharp lower contact: KEEWATIN TILL.

9.1-10.4m -interstratified dark grey silty clay with numerous grits and pebbles, dark grey silty clay, and light buff-grey gritty silt and silt; moderately-poorly sorted; calcareous; silt laminae discontinuous and disturbed; mostly carbonate grits and pebbles in till layers; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERSTRATIFIED WITH GLACIO-LACUSTRINE SILT AND CLAY.

10.4-12.5m -dark grey silty clay and clay and light buff-grey silt; grit and pebble-free; well stratified and sorted; rhythmically laminated between 11.6-12.2m; couplets 3 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

12.5-13.7m -light greyish-green sandy silt with numerous grits and pebbles; appears massive; poorly sorted;; moderate-low density; fairly loose; slightly calcareous; 35% subangular clasts by volume; clasts up to 9 cms diameter; mainly metagreywackes and amphibolitized metasediments; sharp lower contact: LABRADOREAN TILL.

13.7-15.2m -well foliated, thinly bedded, graded, intermediate lapilli tuff to tuff; pyrite along shear planes and as stretched blebs: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-09-01	3.0	4.6
F87-09-02	6.1	7.6
F87-09-03	12.5	13.7

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-09-01	W	TILL	24.5	35.0	40.5	30.3	0.49
F87-09-02	W	TILL	16.5	34.5	49.0	28.3	0.50
F87-09-03	NE	TILL	43.5	49.0	7.5	3.4	0.64

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-09-01	W	TILL	154	2.6	2.6	18.1	3.2	0.6	0.0	70.1	1.3	1.3	0.0
F87-09-02	W	TILL	167	3.0	3.0	21.0	1.8	0.0	0.6	66.5	2.4	0.0	1.8
F87-09-03	NE	TILL	382	3.4	3.4	34.6	1.0	0.3	55.0	0.0	0.0	0.0	1.9

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-09-01	W	TILL	29	32	16	9	1	9	T	2		1	T		1	1	
F87-09-02	W	TILL	30	22	16	6	4	8	9	T		1			4	4	
F87-09-03	NE	TILL	13	33	24	5	T	1	22	1		T	1			6	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-09-01	W	TILL	5.2	0.2	5.0	46.0	43.8	2.2	1.3	0.9
F87-09-02	W	TILL	6.8	0.2	6.6	55.4	52.5	2.9	1.9	1.0
F87-09-03	NE	TILL	9.6	2.0	7.6	189.1	134.9	54.2	45.9	8.3

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-09-01	NO VISIBLE GOLD								
F87-09-02	NO VISIBLE GOLD								
F87-09-03	NO VISIBLE GOLD								EST. 30% PYRITE

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-09-01G	-1	2.0	0.3	4	-0.1	16.9	10	41.5	17	39	7	421		
F87-09-02G	5	-1.0	0.3	-1	-0.1	16.5	3	48.5	17	43	4	420		
F87-09-03G	2	3.0	0.2	-1	-0.1	18.1	4	33.3	23	118	7	497	-5	-1

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-09-01H	27		8	1.7	-1		16.8	30	26.0	10	770	4	945		
F87-09-02H	-14		50	2.4	3		114.6	52	172.0	48	643	54	1940		
F87-09-03H	16	25	131	1.1	2	0.1	128.7	27	149.7	167	234	74	128	-5	2

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

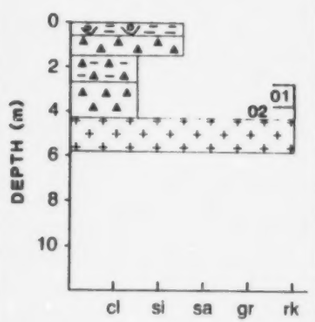
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-09-03M	-5	5	24	0.6	3		54.1	16	44.7	123	2010	50	46	-13	225

Sonic Borehole Number: F87-10

Township: Shenston **Collar Elevation:** 349 m

UTM Coordinates: 5394350 m N 424250 m E

Graphic Log:



Descriptive Log:

0.0-0.6m -light yellowish-brown to brown sandy silt with a few grits and pebbles; appears massive to faintly banded near base; calcareous; heavily weathered; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOW.

0.5-1.5m -light brown sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderately dense; calcareous; mostly carbonate pebbles; sharp lower contact: KEEWATIN TILL.

1.5-2.7m -mottled light brown and dark grey silty clay with numerous grits and pebbles; some light grey bands of grit-free silt; silty clay layers are poorly sorted and appear massive; calcareous; <5% clasts by volume; mainly carbonate clasts; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOWS.

2.7-5.8m -intermediate lapilli tuff; well foliated to gneissose; 5-10 cm beds oblique to core; stretched clasts; hornblende mafic mineral as needles; 10-15% disseminated pyrite; amphibolite facies metamorphism: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-10-01	2.7	3.7
F87-10-02	3.7	4.3

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-10-01	W	TILL	24.5	36.0	39.5	29.4	0.47
F87-10-02	W	TILL	24.5	37.5	38.0	29.7	0.55

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-10-02	W	TILL	207	3.9	1.0	14.5	1.9	0.5	1.9	72.5	3.4	0.0	0.5

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-10-02	W	TILL	22	34	17	8	4	13	T	1		1				4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-10-02	W	TILL	7.6	0.3	7.3	49.7	44.0	5.7	3.5	2.2

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-10-02	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-10-01G	-1	2.0	0.2	3	-0.1	17.0	9	46.6	17	37	8	460		
F87-10-02G	-1	2.0	0.2	3	0.2	16.5	10	40.7	14	41	8	486		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-10-02H	13		14	1.3	2		24.8	33	40.0	14	1070	14	1120		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

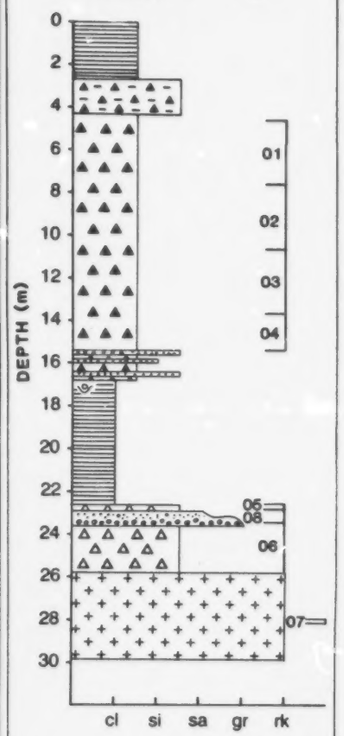
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-11

Township: Shenston **Collar Elevation:** 344 m

UTM Coordinates: 5389850 m N 423150 m E

Graphic Log:



Descriptive Log:

0.0-2.7m -mottled brownish-grey and brown silty clay and clay; well laminated and sorted; rhythmically laminated between 1.2-2.7m; couplets 3 mms thick; calcareous; numerous carbonate concretions; grit and pebble-free; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

2.7-4.3m -rhythmically laminated light buff-brown, gritty silty very fine sand and dark grey clay; gritty sand layers up to 1.5 cms thick; couplets up to 3 cms thick; calcareous; soft and sticky; no pebbles >1 cm diameter; clasts subrounded to subangular; lower 0.3m appears more massive and clay-rich; gradational lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

4.3-15.4m -dark grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; moderate density; very plasticity; calcareous; <2% clasts by volume; mainly subangular to subrounded carbonate clasts <2.5 cms diameter; some small inclusions of sandy silt and silt (1-2 mms diameter); sharp lower contact: KEEWATIN TILL.

15.4-16.8m -dark grey clay, silty clay, and sandy silt with varying amounts of grits and pebbles; some layers are very clay-rich and pebble-free; some layers have numerous intraclasts of gritty glaciolacustrine silt; some layers are thin debris flows of gritty sandy silt; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOWS INTER-STRATIFIED WITH GLACIOLACUSTRINE SILT AND CLAY.

16.8-22.6m -rhythmically laminated dark greyish-brown, brownish-grey, and dark grey clay and light grey silt and silty very fine sand; grit and pebble-free except for a few small dropstones near top of unit; well sorted; calcareous; couplets range from 0.75 cms to 7 cms thick; clay is the dominant component of all couplets; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

22.6-22.9m -grey, stoney, sandy silt with numerous grits and pebbles and some clay; appears massive; poorly sorted; slightly calcareous; 60% subrounded clasts by volume; mainly sulphide-bearing graphitic schists; clasts up to 3 cms diameter; sharp lower contact: LABRADOREAN TILL.

22.9-23.6m -steel grey pebbly coarse sand grading down to sandy gravel (normal grading); very poorly sorted; matrix rich in dark grey clayey silt; non-calcareous; 70% clasts by volume; clast-supported; clasts subrounded to subangular; gravel clasts up to 8 cms diameter; mainly graphitic schists; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL.

23.6-25.8m -dark greyish-black sandy silt with numerous grits and pebbles; poorly sorted; appears massive; slightly calcareous; abundant pyrite in matrix; 30% clasts by volume; mostly subangular, heavily weathered, sulphide-bearing graphitic schist; clasts up to 7 cms diameter; sharp lower contact: LABRADOREAN TILL.

25.8-26.8m -black graphitic schist; contains very thin quartz veinlets; abundant pyrite and pyrrhotite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-11-01	4.6	7.6	F87-11-05	22.6	22.9
F87-11-02	7.6	10.7	F87-11-06	23.5	25.8
F87-11-03	10.7	13.7	F87-11-07	28.0	28.2
F87-11-04	13.7	15.4	F87-11-08	22.9	23.5

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-11-01	W	TILL	20.5	37.5	42.0	29.8	0.42
F87-11-02	W	TILL	20.0	37.0	43.0	30.0	0.45
F87-11-03	W	TILL	15.0	32.5	52.5	29.6	0.41
F87-11-04	W	TILL	14.0	34.0	52.0	29.0	0.44
F87-11-05	NE	TILL	34.5	55.0	10.5	7.4	0.83
F87-11-06	NE	TILL	43.0	47.5	9.5	2.9	0.61

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-11-01	W	TILL	164	0.6	3.7	20.7	2.4	0.6	0.0	70.1	1.2	0.0	0.6
F87-11-03	W	TILL	126	0.8	5.6	22.2	0.0	0.0	2.4	64.3	3.2	0.8	0.8
F87-11-04	W	TILL	148	6.8	1.4	21.7	0.0	1.4	2.0	61.5	2.7	0.0	2.7
F87-11-06	NE	TILL	286	7.3	11.9	20.3	7.3	36.7	16.4	0.0	0.0	0.0	0.0
F87-11-08	NE	TILL	337	0.3	6.8	21.0	0.0	0.0	70.9	0.0	0.0	0.3	0.6

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-11-01	W	TILL	19	34	10	8	6	5	17			1				3	
F87-11-03	W	TILL	12	32	16	8	4	13	14		1					5	
F87-11-04	W	TILL	19	27	26	6	T	9	6	1		2	T		4	4	
F87-11-06	NE	TILL	1	9	7	4	T	1	78							2	
F87-11-08	NE	TILL	8	6	3	1			81						1	4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F87-11-01	W	TILL	5.2	0.2	5.0	51.2	46.8	4.4	3.0	1.4
F87-11-03	W	TILL	6.1	0.1	6.0	49.7	46.0	3.7	2.5	1.2
F87-11-04	W	TILL	5.8	0.1	5.7	39.1	35.8	3.3	2.2	1.1
F87-11-06	NE	TILL	5.3	1.6	3.7	661.1	458.4	202.7	192.3	10.4
F87-11-08	NE	TILL	7.3	3.8	3.5	390.1	264.8	125.3	121.8	3.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-11-01	NO VISIBLE GOLD								
F87-11-03	NO VISIBLE GOLD								
F87-11-04	NO VISIBLE GOLD								
F87-11-06	100 X 100		1					1	EST. 50% PYRITE
								1	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-11-01G	-1	2.0	0.3	3	-0.1	17.3	11	40.9	18	41	9	444		
F87-11-02G	-1	2.0	0.3	4	-0.1	16.8	13	46.7	18	35	8	460		
F87-11-03G	-1	2.0	0.3	5	-0.1	19.5	12	48.8	19	37	9	430		
F87-11-04G	-1	2.0	0.3	5	-0.1	17.4	11	45.2	19	41	8	380		
F87-11-05G	2	5.0	0.2	1	-0.1	31.2	7	57.8	42	123	15	578	-5	-1
F87-11-06G	2	10.0	0.4	5	-0.1	75.2	13	229.6	59	73	18	773	-5	-1

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-11-01H	21		62	2.6	6		112.5	60	154.0	76	634	52	1240		
F87-11-03H	-15		88	3.0	8		93.2	50	144.0	62	569	58	1290		
F87-11-04H	-15		68	3.0	5		140.6	66	164.0	94	595	62	2340		
F87-11-06H	10	-8	424	1.8	3	0.4	240.0	61	608.0	200	27	85	109	-38	-8
F87-11-08H	8	111	444	1.9	3	0.2	157.7	45	351.5	138	37	78	65	-15	-3

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

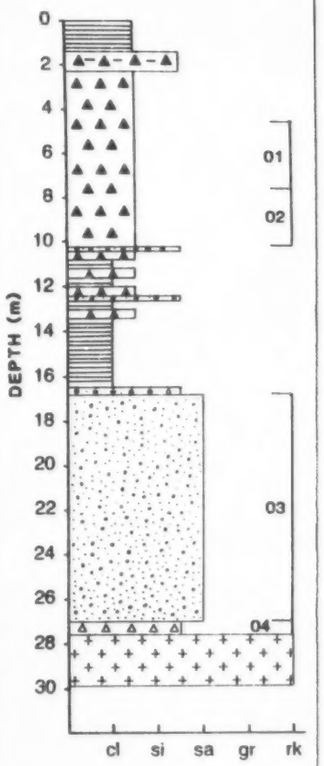
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-11-06M	-5	13	56	8.8	996		420.0	14	52.9	479	6180	41	102	-11	28
F87-11-08M	-5	-7	17	0.9	32		90.6	14	85.1	115	1140	102	68	-35	363

Sonic Borehole Number: F87-12

Township: Shenston **Collar Elevation:** 344 m

UTM Coordinates: 5389350 m N 424250 m E

Graphic Log:



Descriptive Log:

0.0-1.4m -mottled dark brown and light greyish-brown silty clay; grit and pebble-free; faintly laminated; calcareous; some carbonate concretions; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

1.4-2.3m -rhythmically laminated mottled brown and buff-grey gritty sandy silt and dark grey clay; couplets 1-5 cms thick; clay layers 0.75-1.0 cm thick; sandy silt layers appear massive; calcareous; most clasts <1 cm diameter; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

2.3-10.2m -mottled orangy-brown and brownish-grey to dark grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; moderate density; dry; calcareous; 2% clasts by volume; mainly subrounded Paleozoic carbonates <0.75 cms diameter; some intraclasts of glaciolacustrine silt near base of unit (1-2 mms diameter); sharp lower contact: KEEWATIN TILL.

10.2-13.4m -dark grey silty clay with gritty and pebbly horizons; crudely bedded; moderately-poorly sorted; calcareous; numerous intraclasts of gritty silt and grit-free silt; some pebbles up to 1.5 cms diameter; sharp lower contact; transition from till to glaciolacustrine sediment: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS AND RAINOUT TILL.

13.4-16.8m -rhythmically laminated dark grey clay and light grey silt, clayey silt, and sandy silt; couplets increase from 0.5-3.0 cms thick with depth; mainly clay; well sorted; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY RHYTHMITES.

16.8-27.0m -light grey silty very fine sand and pebbly fine to very fine sand grading downward to interbedded medium to very fine sand; very well sorted and stratified; slightly calcareous; pebble-free from 18.3m down; sands rich in dark heavy minerals; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

27.0-27.6m -dark steel grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderately dense to loose; slightly calcareous; 40% clasts by volume; mainly subangular mafic extrusives up to 15 cms diameter; sharp lower contact: LABRADOREAN TILL.

27.6-29.9m -medium grained, dark green, crystalline, mafic metavolcanic; amphibolite with quartz-feldspar veinlets oblique to core; less than 1% pyrite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-12-01	4.6	7.6
F87-12-02	7.6	10.2
F87-12-03	16.8	27.0
F87-12-04	27.0	27.6

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-12-01	W	TILL	17.5	34.5	48.0	29.8	0.48
F87-12-02	W	TILL	19.0	31.5	49.5	28.3	0.44
F87-12-04	NE	TILL	54.0	40.5	5.5	5.9	1.21

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-12-02	W	TILL	129	6.7	1.5	3.1	17.6	0.0	0.0	66.9	2.3	0.0	0.8
F87-12-03	NE	SAND	109	0.9	40.4	34.0	13.8	3.7	0.0	4.6	0.9	0.0	1.8
F87-12-04	NE	TILL	232	0.0	90.5	3.9	3.1	2.2	0.0	0.0	0.0	0.0	0.4

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-12-02	W	TILL	19	31	19	6	2	2	18	2		T	T		1	6	
F87-12-03	NE	SAND	14	41	20	6	T	2	14	T		3	T			4	
F87-12-04	NE	TILL	6	19	16	6			53			T			T	1	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-12-02	W	TILL	5.8	0.1	5.7	19.2	17.4	1.8	1.3	0.5
F87-12-03	NE	SAND	9.1	0.1	9.0	281.4	216.3	65.1	54.9	10.2
F87-12-04	NE	TILL	4.8	1.6	3.2	250.2	213.8	36.4	31.8	4.6

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-12-02	NO VISIBLE GOLD								
F87-12-03	NO VISIBLE GOLD								
F87-12-04	25 X 50		1					1	EST. 60% PYRITE
								1	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-12-01G	-1	3.0	0.3	4	-0.1	16.2	10	50.7	19	42	10	423		
F87-12-02G	-1	2.0	0.3	4	-0.1	19.1	11	44.8	22	45	9	447		
F87-12-04G	7	3.0	-0.2	2	-0.1	51.4	4	60.4	42	144	16	416	-5	-1

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-12-02H	14		92	3.5	4		106.8	56	176.0	78	460	60	1390		
F87-12-03H	9	2	73	0.8	4	0.2	139.9	21	117.5	88	301	62	60	-5	4
F87-12-04H	25	4	251	1.9	3	0.4	326.9	26	249.9	181	174	87	41	-7	11

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

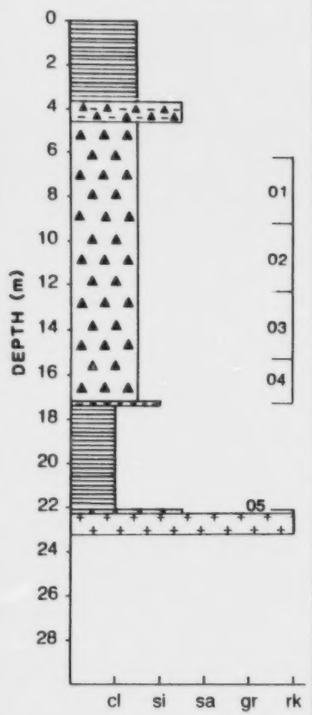
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-12-03M	-5	2	24	0.6	21		70.7	15	40.7	112	1930	60	22	-9	-2
F87-12-04M	-5	11	54	0.9	19		278.0	12	62.4	299	3940	119	74	-28	106

Sonic Borehole Number: F87-13

Township: Dobie **Collar Elevation:** 339 m

UTM Coordinates: 5388325 m N 427650 m E

Graphic Log:



Descriptive Log:

0.0-3.7m -mottled light brown, brown, and dark grey silty clay; grit and pebble-free; massive to faintly laminated with depth; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

3.7-4.6m -rhythmically laminated light brown, gritty, sandy silt and dark grey clay; couplets 1 cm thick; clay laminae 0.5 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

4.6-17.2m -mottled orangy-brown and greyish-brown grading to dark grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; moderate density; plasticity; calcareous; <2% clasts by volume; mainly subrounded-subangular carbonate clasts up to 2 cms diameter; sharp lower contact: KEEWATIN TILL.

17.2-17.4m -dark grey silty clay and light buff gritty silt; banded; poorly sorted; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS AND GLACIOLACUSTRINE CLAY.

17.4-22.1m -rhythmically laminated dark grey clay and light buff silt; grit and pebble-free; mainly clay with 1-2 mm thick silt laminae; couplets 0.3-7.0 cms thick; calcareous; well sorted; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

22.1-22.3m -olive-grey sandy silt with numerous grits and pebbles; poorly sorted; appears massive; loose; slightly calcareous; 35% clasts by volume; mainly subangular mafic extrusives up to 5 cms diameter; sharp lower contact: LABRADOREAN TILL.

22.3-23.2m -grey, intermediate to felsic lapilli tuff to tuff; contains euhedral feldspar phenoclasts and feldspar porphyry blocks; minor quartz eyes; trace pyrite; amphibolite grade metamorphism; slightly weathered: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-13-01	6.1	9.1
F87-13-02	9.1	12.2
F87-13-03	12.2	15.2
F87-13-04	15.2	17.2
F87-13-05	22.1	22.3

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-13-01	W	TILL	18.0	34.0	48.0	29.0	0.46
F87-13-02	W	TILL	21.0	29.5	49.5	26.9	0.44
F87-13-03	W	TILL	17.0	33.5	49.5	29.6	0.46
F87-13-04	W	TILL	13.0	31.0	56.0	28.8	0.45
F87-13-05	NE	TILL	43.5	47.5	9.0	6.0	0.84

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-13-02	W	TILL	135	3.7	3.7	14.8	0.0	0.0	0.0	74.1	2.2	0.7	0.7
F87-13-04	W	TILL	105	3.8	0.0	20.9	0.0	0.0	1.0	74.3	0.0	0.0	0.0
F87-13-05	NE	TILL	89	4.5	44.9	19.1	29.2	1.1	0.0	0.0	0.0	0.0	1.1

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-13-02	W	TILL	18	21	18	6	1	13	17	1		3	T		2	1	
F87-13-04	W	TILL	21	18	23	3	1	12	18	T		1	1		2	4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-13-02	W	TILL	5.6	0.2	5.4	43.0	40.0	3.0	2.0	1.0
F87-13-04	W	TILL	5.4	0.1	5.3	48.5	46.5	2.0	1.3	0.7

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-13-02	NO VISIBLE GOLD								
F87-13-04	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-13-01G	-1	4.0	0.4	4	-0.1	16.1	10	47.7	19	45	8	426		
F87-13-02G	-1	-1.0	0.2	4	0.1	18.0	11	48.8	19	55	10	419		
F87-13-03G	-1	2.0	0.2	5	-0.1	17.1	11	50.6	18	42	9	397		
F87-13-04G	-1	3.0	0.2	5	-0.1	17.5	11	51.3	19	57	8	419		
F87-13-05G	5	2.0	0.2	1	-0.1	16.8	5	34.6	18	59	10	550		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-13-02H	-13		74	2.6	4		127.8	46	206.0	78	547	68	2310		
F87-13-04H	-15		84	2.8	5		110.6	60	204.0	104	544	72	2340		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

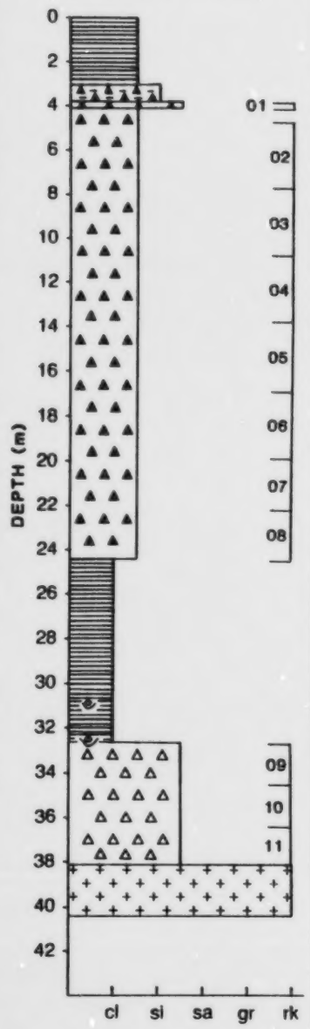
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-14

Township: Morley **Collar Elevation:** 338 m

UTM Coordinates: 5392175 m N 416350 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -mottled light greyish-brown and brownish-grey silty clay with minor silty very fine sand; rhythmically laminated near base; couplets 1 cm thick; grit and pebble-free; well laminated; calcareous; some carbonate concretions present; sharp lower contact: EMERSON PHASE GLACIO-LACUSTRINE CLAYS.

1.5-3.8m -rhythmically laminated light greyish-brown silt with numerous grits and pebbles and dark grey clay; couplets 2-3 cms thick; clay layers up to 1 cm thick; silt layers massive; calcareous; abundant Fe-oxide staining; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

3.8-24.4m -light brownish-grey, loamy, clayey silt with numerous grits and pebbles grading downward to dark grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; moderate density; very plasticity and sticky; 5% clasts by volume; mainly subrounded carbonate clasts up to 8 cms diameter; some intraclasts of glaciolacustrine silt near base (1-2 mms diameter); sharp lower contact: KEEWATIN TILL.

24.4-30.5m -dark grey silty clay and clay; appears massive; well sorted; virtually grit and pebble-free; calcareous; numerous intraclasts of calcareous glaciolacustrine silt (1-2 mms diameter); sharp lower contact: DISTURBED KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

30.5-32.6m -rhythmically laminated dark grey clay and light grey silt; couplets 7.5 cms thick near top and 2.5 cms thick near base; silt layers 0.5 cms thick; grit and pebble-free; calcareous; a few dropstones present; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SILT RHYTHMITES.

32.6-38.1m -light grey silty very fine sand; poorly sorted; appears massive; moderate-low density; slightly calcareous; 10% clasts by volume; very stoney in upper 0.3m (possibly washed); clasts faintly striated and bullet-shaped; mainly subangular metagreywackes, mafic volcanics, and felsic intrusives; sharp lower contact: LABRADOREAN TILL.

38.1-40.4m -medium grained, equigranular, hornblende tonalite; subtle foliation; amphibolite xenolith-bearing; epidote alteration within the hornblende mafic mineral: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-14-01	3.8	4.1
F87-14-02	4.6	7.6
F87-14-03	7.6	10.7
F87-14-04	10.7	13.7
F87-14-05	13.7	16.8
F87-14-06	16.8	19.8
F87-14-07	19.8	22.1
F87-14-08	22.1	24.4
F87-14-09	32.6	34.4
F87-14-10	34.4	36.3
F87-14-11	36.3	38.1

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-14-01	W	TILL	28.0	45.0	27.0	39.7	0.32
F87-14-02	W	TILL	26.5	41.0	32.5	28.8	0.38
F87-14-03	W	TILL	29.0	39.0	32.0	30.0	0.49
F87-14-04	W	TILL	31.0	34.0	35.0	30.1	0.54
F87-14-05	W	TILL	27.0	38.0	35.0	29.8	0.44
F87-14-06	W	TILL	29.0	32.0	39.0	28.3	0.58
F87-14-07	W	TILL	22.0	36.0	42.0	30.0	0.49
F87-14-08	W	TILL	12.0	35.5	52.5	26.1	0.37
F87-14-09	NE	TILL	55.0	39.5	5.5	5.2	0.54
F87-14-10	NE	TILL	55.0	40.0	5.0	3.6	0.44
F87-14-11	NE	TILL	58.5	39.0	2.5	3.3	0.35

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-14-02	W	TILL	206	1.9	3.4	22.3	1.9	0.5	1.9	60.2	6.3	0.0	1.4
F87-14-04	W	TILL	240	4.6	2.1	20.8	3.3	2.1	0.8	60.4	5.0	0.0	1.3
F87-14-06	W	TILL	266	1.1	6.4	21.4	2.6	0.0	0.0	60.2	7.1	0.4	0.8
F87-14-08	W	TILL	97	3.1	0.0	23.7	0.0	0.0	1.0	69.1	2.0	0.0	1.0
F87-14-09	NE	TILL	384	2.1	3.9	31.2	1.8	1.0	56.2	0.5	0.0	0.3	2.9
F87-14-10	NE	TILL	427	7.0	30.0	28.8	11.7	0.0	20.4	0.7	0.0	0.5	0.9
F87-14-11	NE	TILL	209	8.6	20.1	44.5	2.0	1.0	21.5	0.5	0.0	0.0	1.9

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-14-02	W	TILL	18	25	5	11	3	11	14	3		2	2		6	8	
F87-14-04	W	TILL	14	27	10	14	3	16	12	1		1	1		1	10	
F87-14-06	W	TILL	17	28	18	11	2	9	10	1		2			2	1	
F87-14-08	W	TILL	19	22	13	8	6	10	18	1		1	T		2	7	
F87-14-09	NE	TILL	15	31	28	6	1	7	9	T		3	T			9	
F87-14-10	NE	TILL	8	57	14	7	1	2	7			4	T			4	
F87-14-11	NE	TILL	11	33	25	9	2	3	15	T		2				10	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-14-02	W	TILL	5.9	0.2	5.7	74.5	69.0	5.5	3.7	1.8
F87-14-04	W	TILL	5.6	0.2	5.4	55.1	49.5	5.6	3.8	1.8
F87-14-06	W	TILL	6.9	0.4	6.5	64.1	58.8	5.3	3.7	1.6
F87-14-08	W	TILL	6.8	0.0	6.8	60.4	57.8	2.6	1.8	0.8
F87-14-09	NE	TILL	11.0	2.7	8.3	206.9	171.1	35.8	27.9	7.9
F87-14-10	NE	TILL	9.2	1.4	7.8	174.4	162.9	11.5	10.0	1.5
F87-14-11	NE	TILL	7.7	1.2	6.5	134.2	96.4	37.8	28.9	8.9

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-14-02	NO VISIBLE GOLD								
F87-14-04	NO VISIBLE GOLD								
F87-14-06	NO VISIBLE GOLD								
F87-14-08	NO VISIBLE GOLD								
F87-14-09	25 X 50		1					1	EST. 30% PYRITE
	50 X 100		1					1	
	75 X 100	1						1	
	100 X 125	1						1	
								4	
F87-14-10	25 X 25		1					1	EST. 1% PYRITE
	50 X 50		1					1	
	50 X 75		1	1				2	
	75 X 125	1						1	
								5	
F87-14-11	50 X 50		2					2	EST. 30 % PYRITE 1 GRAIN NATIVE COPPER
								2	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-14-01G	-1	2.0	0.2	4	-0.1	12.4	10	35.7	13	30	6	364		
F87-14-02G	-1	2.0	0.2	4	-0.1	16.4	10	41.2	17	52	9	457		
F87-14-03G	9	2.0	-0.2	4	0.1	17.1	10	44.2	17	44	9	428		
F87-14-04G	-1	3.0	0.2	3	0.1	15.1	11	44.0	17	47	10	426		
F87-14-05G	-1	2.0	0.2	3	-0.1	14.9	9	42.0	16	44	11	449		
F87-14-06G	-1	3.0	0.2	3	0.1	16.0	11	45.8	17	50	11	438		
F87-14-07G	-1	2.0	0.2	3	-0.1	18.6	10	51.9	23	54	10	423		
F87-14-08G	-1	3.0	0.4	4	-0.1	18.7	12	48.3	21	53	11	414		
F87-14-09G	-1	2.0	-0.2	-1	-0.1	16.7	3	23.5	16	68	10	473		
F87-14-10G	23	1.0	-0.2	-1	-0.1	16.3	3	20.4	12	64	9	512		
F87-14-11G	5	2.0	-0.2	-1	-0.1	12.2	3	14.3	10	59	8	500		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-14-02H	86		96	3.1	8		150.3	73	145.0	87	693	70	2240		
F87-14-04H	82		95	3.1	9		124.3	53	149.0	75	652	66	3640		
F87-14-06H	28		96	3.4	8		117.5	54	168.0	79	622	64	2450		
F87-14-08H	-18		106	3.0	4		121.8	76	148.0	78	610	72	2460		
F87-14-09H	270	254	118	1.8	1	0.5	260.2	17	88.0	83	277	164	49		
F87-14-10H	400	443	28	1.3	2	0.2	145.3	13	52.0	39	244	63	92		
F87-14-11H	46	43	108	1.2	1	-0.1	130.4	14	43.0	76	288	141	29		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

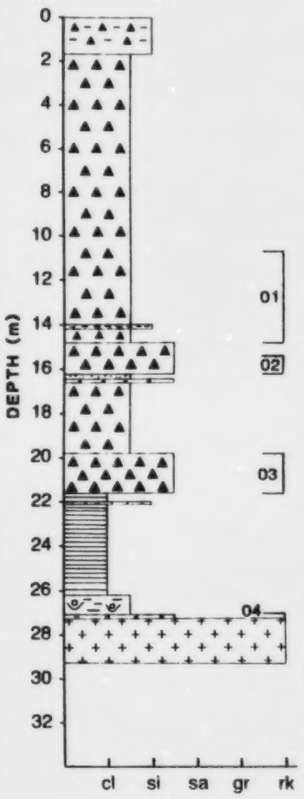
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-15

Township: Morley **Collar Elevation:** 329 m

UTM Coordinates: 5389250 m N 412500 m E

Graphic Log:



Descriptive Log:

0.0-1.7m -rhythmically laminated, mottled orangy-brown and buff-brown gritty silt and dark grey clay; couplets 1 cm thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

1.7-14.9m -mottled dark grey and greyish-brown grading down to dark grey clayey silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density; calcareous; 2% clasts by volume; mainly subrounded carbonate clasts up to 3 cms diameter; thin silt lamination present at 14.0m (1-2 mm thick); sharp lower contact: KEEWATIN TILL.

14.9-16.2m -dark grey to brownish-grey sandy silt with numerous grits and pebbles; coarser and grittier than overlying till; calcareous; 5% clasts by volume; up to 2-3 cms diameter; sharp lower contact: KEEWATIN TILL.

16.2-16.5m -same as from 1.7-14.9m; sharp lower contact: KEEWATIN TILL.

16.5-16.6m -same as from 14.9-16.2m; sharp lower contact: KEEWATIN TILL.

16.6-19.8m -same as from 1.7-14.9m; sharp lower contact: KEEWATIN TILL.

19.8-21.6m -same as from 14.9-16.2m; sharp lower contact: KEEWATIN TILL.

21.6-22.0m -dark grey silty clay; grit and pebble-free; appears massive; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

22.0-22.1m -dark grey, slightly gritty silt; appears massive, calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOW.

22.1-26.2m -rhythmically laminated dark brownish-grey silty clay and light grey silt; a few grits and pebbles between 23.5 and 25.3m; couplets 3-4 cms thick; some small inclusions of glaciolacustrine silt (1-2 mms diameter); calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

26.2-27.1m -light grey clayey silt to silt with floating cobbles; appears massive; well sorted matrix; calcareous; cobbles up to 6 cms diameter; subangular-subrounded; sharp lower contact; KEEWATIN-DERIVED DIAMICTON.

27.1-27.3m -light greenish-grey sandy silt with numerous grits and pebbles; poorly sorted; appears massive; loose; slightly calcareous; 10% clasts by volume; predominantly subangular granitic clasts up to 3-4 cms diameter; sharp lower contact: LABRADOREAN TILL.

27.3-29.3m -pink to green, fine grained, equigranular biotite granodiorite; minor clotty matrix; epidote veinlets parallel to core: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-15-01	10.7	14.9
F87-15-02	15.4	16.2
F87-15-03	19.8	21.6
F87-15-04	27.1	27.3

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-15-01	W	TILL	26.5	38.0	35.5	29.7	0.38
F87-15-02	W	TILL	34.5	40.0	25.5	38.5	0.37
F87-15-03	W	TILL	35.0	40.5	24.5	29.5	0.60
F87-15-04	NE	TILL	35.0	56.5	8.5	5.5	1.04

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-15-02	W	TILL	411	3.4	0.2	17.2	0.2	0.7	0.0	74.0	2.6	0.0	1.5

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-15-01	W	TILL	11	33	23	9	4	8	8	T		1	T		3	7	
F87-15-02	W	TILL	21	19	15	8	9	11	11	1		2			3	1	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F87-15-01	W	TILL	7.2	0.4	6.8	49.9	45.5	4.4	2.9	1.5
F87-15-02	W	TILL	7.1	0.6	6.5	151.8	145.8	6.0	4.0	2.0

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-15-01	NO VISIBLE GOLD								
F87-15-02	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-15-01G	-1	2.0	0.2	3	-0.1	14.9	12	40.0	14	40	10	406		
F87-15-02G	-1	3.0	0.7	3	-0.1	12.7	29	79.8	14	43	10	375		
F87-15-03G	-1	2.0	0.2	3	-0.1	13.3	12	39.4	12	38	9	361		
F87-15-04G	6	1.0	0.2	-1	-0.1	20.2	10	49.8	23	62	16	583		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-15-01H	27		106	2.9	3		145.2	62	136.0	60	552	62	1410		
F87-15-02H	-14		110	2.9	9		119.0	66	137.0	103	530	61	2950		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

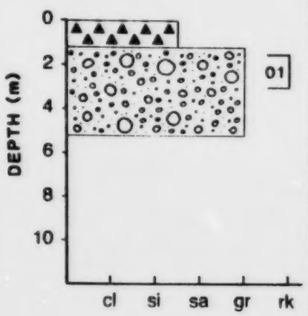
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-16

Township: Morley **Collar Elevation:** 351 m

UTM Coordinates: 5394575 m N 412700 m E

Graphic Log:



Descriptive Log:

0.0-1.2m -mottled dark brown to buff brown and brown sandy silt with numerous grits and pebbles; very dense, dry, and compact; heavily weathered; appears massive; poorly sorted; calcareous; abundant carbonate precipitates; 2-3% clasts by volume; mainly subrounded carbonates; sharp lower contact: KEEWATIN TILL.

1.2-1.5m -porphyritic, intermediate intrusive; sharp lower contact: BOULDER.

1.5-2.7m -light buff-brown to olive-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; very loose and dry; slightly calcareous; 35-40% clasts by volume; clasts subangular-subrounded; mainly felsic-intermediate intrusive lithologies; sharp lower contact: LABRADOREAN-DERIVED DIAMICTON.

2.7-5.2m -very coarse bouldery gravel; 50-60% clasts by volume; clasts up to 0.2m diameter; mainly felsic-intermediate intrusive lithologies; fine-medium sand matrix; moderately sorted: LABRADOREAN-DERIVED ICE-CONTACT STRATIFIED DRIFT.

Hole abandoned at 5.2m

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-16-01	1.5	3.0			

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-16-01G	3	2.0	0.2	-1	-0.1	90.1	7	54.9	82	213	28	569		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

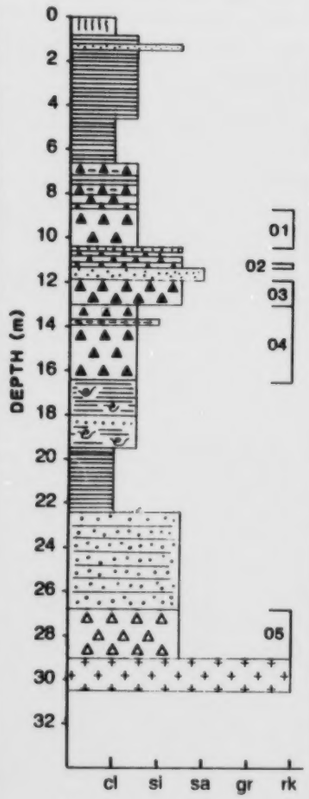
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-17

Township: Patullo **Collar Elevation:** 342 m

UTM Coordinates: 5406850 m N 414750 m E

Graphic Log:



Descriptive Log:

0.0-0.9m -TOPSOIL

0.9-1.5m -greyish-brown to dark grey silty clay and clayey silt with minor silty very fine sand; well sorted; grit and pebble-free; appears massive; non-calcareous; fine, whispy organic streaks present; sharp lower contact: OLDER ALLUVIUM.

1.5-4.6m -mottled brown, brownish-grey, and grey silty clay, silt, and minor very fine sand; grit and pebble-free; rhythmically laminated from 2.7-3.4m and from 4.0-4.9m; clay is calcareous; silt and very fine sand is non-calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND CLAY.

4.6-6.7m -dark grey clay with minor silt; grit and pebble-free; mainly massive; slightly calcareous; a few light buff silt laminae near base of unit (1 mm thick); sharp lower contact; LOCKHART PHASE GLACIOLACUSTRINE CLAY.

6.7-19.5m -light brownish-grey, gritty and pebbly silty clay, clayey silt, silt, and sandy silt and grit-free silty clay, clayey silt, silt, and very fine sand; well stratified; gritty and pebbly zones appear massive, poorly sorted, and moderately compact; contain inclusions of glaciolacustrine clay, silt, and very fine sand; grit-free zones are massive to well laminated; all sediments are calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERBEDDED WITH GLACIOLACUSTRINE SAND, SILT, AND CLAY.

19.5-22.4m -dark grey clay and light grey silt; grit and pebble-free; appears massive down to 20.4m; rhythmically laminated between 20.4 and 22.4m; couplets 0.5-2.0 cms thick; silt laminae 1-2 mms thick; calcareous; sharp lower contact; KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

22.4-26.8m -rhythmically laminated greenish-grey silty very fine sand and sandy silt and dark grey clay; grit and pebble-free; couplets 8-9 cms thick; clay layers 1.5 cms thick; non-calcareous to slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SAND AND CLAY RHYTHMITES.

26.8-29.0m -light grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density; slightly calcareous; 35% clasts by volume; clasts up to 6 cms diameter; clasts subangular-subrounded; some bullet-shaped clasts with striated facets; mainly mafic extrusive and felsic-intermediate intrusive lithologies; sharp lower contact: LABRADOREAN TILL.

29.0-30.5m -grey, fine grained, quartz feldspar tuff; sericitic shear planes with boudined quartz and feldspar veinlets; rotated feldspar phenoclasts and minor stretched lithic lapilli clasts; felsic-intermediate composition; foliation oblique to core: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-17-01	8.7	10.4
F87-17-02	11.1	11.3
F87-17-03	11.9	13.0
F87-17-04	13.0	16.5
F87-17-05	26.8	29.0

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-17-01	W	TILL	19.0	40.0	41.0	26.5	0.38
F87-17-02	W	TILL	44.0	29.5	26.5	29.7	0.38
F87-17-03	W	TILL	34.0	36.0	30.0	29.6	0.40
F87-17-04	W	TILL	20.5	33.5	46.0	27.0	0.46
F87-17-05	NE	TILL	51.5	41.5	7.0	4.7	0.60

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-17-05	NE	TILL	291	5.2	37.8	32.7	13.1	4.8	3.1	0.0	0.0	1.0	2.4

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-17-01	W	TILL	17	29	20	14	1	7	8	1		2			1	7	
F87-17-04	W	TILL	16	40	13	7	2	3	12	T		5	1		1	2	
F87-17-05	NE	TILL	13	50	10	9	5	3	8	T		1	1		T	6	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-17-01	W	TILL	5.2	0.2	5.0	92.6	89.6	3.0	1.9	1.1
F87-17-04	W	TILL	6.0	0.2	5.8	35.5	33.3	2.2	1.5	0.7
F87-17-05	NE	TILL	8.0	3.0	5.0	126.6	101.1	25.5	19.1	6.4

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-17-01	NO VISIBLE GOLD								
F87-17-04	NO VISIBLE GOLD								
F87-17-05	NO VISIBLE GOLD								EST. 2% PYRITE

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-17-01G	-1	2.0	0.2	3	-0.1	19.3	10	49.2	19	44	11	434		
F87-17-02G	1	2.0	0.2	2	0.1	14.9	8	46.1	16	46	10	434		
F87-17-03G	-1	2.0	0.3	3	-0.1	15.5	10	46.6	17	45	10	417		
F87-17-04G	-1	2.0	0.2	2	-0.1	20.0	11	49.3	21	47	11	353		
F87-17-05G	10	1.0	-0.2	1	-0.1	26.0	4	34.5	15	46	14	301		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-17-01H	110		62	2.1	5		176.6	56	126.0	60	446	64	788		
F87-17-04H	-17	-19	57	1.8	3	IS	187.0	56	134.0	54	440	60	847		
F87-17-05H	120	54	125	2.4	1	1.1	327.6	17	107.0	89	188	204	40		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

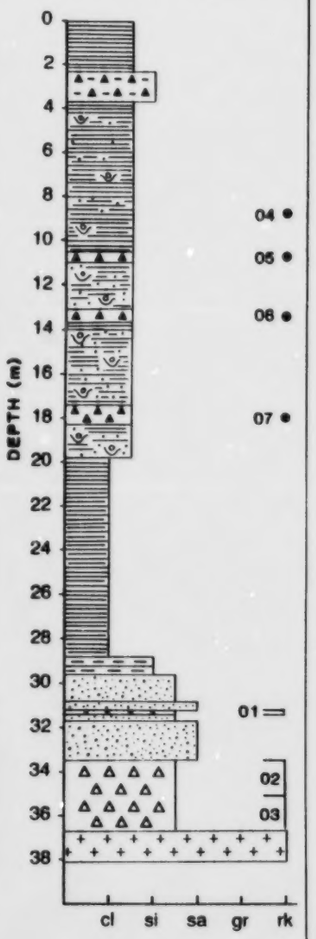
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-18

Township: Patullo **Collar Elevation:** 335 m

UTM Coordinates: 5403150 m N 408125 m E

Graphic Log:



Descriptive Log:

0.0-2.3m -mottled orangy-brown, brownish-grey, and grey grading down to dark grey silty clay and clay; grit and pebble-free; appears massive except for whispy silt laminations near unit base; calcareous; carbonate concretions present; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

2.3-3.7m -rhythmically laminated light buff-brown gritty silt and dark grey clay; couplets approximately 3 cms thick; clay laminae 1 cm thick and thin downward; clasts in diamicton layers up to 2 cms diameter; diamictons appear massive; all calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

3.7-19.8m -mottled greyish-brown and grey grading to dark grey clay and silty clay; very few grits and small pebbles; appears massive; a few intraclasts of glaciolacustrine silt and silty very fine sand (1-2 mms diameter); calcareous; grittier till-like zones from 10.5-11.0m, 13.1-13.7m, and 17.4-18.3m; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

19.8-28.8m -rhythmically laminated dark grey clay and light grey silt; couplets 1-15 cms thick; clay layers approximately 1 cm thick; some contorted laminae; a few carbonate pebbles (dropstones); all sediments calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

28.8-29.6m -rhythmically laminated light greenish-grey silt and dark grey clay; grit and pebble-free; couplets 6-7 cms thick; silt layers 5-6 cms thick; slightly calcareous; sharp lower contact; KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

29.6-33.5m -light greenish-grey silty very fine sand and fine sand with minor clay; grit and pebble-free; well sorted and stratified; non-calcareous to slightly calcareous; unit of light olive-grey silty very fine sand with numerous grits and pebbles between 31.2-31.4m; appears massive; poorly sorted; moderate density; slightly calcareous; 40% clasts by volume; mainly subangular felsic-intermediate extrusive and coarse felsic intrusive lithologies; clasts up to 5-6 cms diameter; sharp lower contact: LABRADOREAN-DERIVED FLOW TILL INTERBEDDED WITH GLACIOLACUSTRINE SAND.

33.5-36.7m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; very dense to moderately dense; non-calcareous to slightly calcareous; 30% clasts by volume; mainly subangular to subrounded clasts of felsic, intermediate, and mafic volcanic extrusives, up to 10 cms diameter; sharp lower contact; LABRADOREAN TILL.

36.7-38.1m -grey, intermediate to felsic tuff to lapilli tuff; angular to very angular block-sized lithic lapilli clasts; trace pyrite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-18-01	31.2	31.4
F87-18-02	33.5	35.1
F87-18-03	35.1	36.7
F87-18-04	8.8	
F87-18-05	10.7	
F87-18-06	13.4	
F87-18-07	18.0	

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-18-01	NE	TILL	57.0	40.0	3.0	5.0	1.23
F87-18-02	NE	TILL	62.0	33.0	5.0	3.0	1.65
F87-18-03	NE	TILL	42.5	52.5	5.0	2.5	0.85
F87-18-04	W	TILL	10.0	29.0	61.0	24.4	0.67
F87-18-05	W	TILL	19.0	31.0	50.0	26.0	0.58
F87-18-06	W	TILL	19.0	28.0	53.0	25.6	0.64
F87-18-07	W	TILL	27.0	30.0	43.0	26.7	0.48

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-18-02	NE	TILL	11	40	10	10	1	11	9			4	2		2	1	
F87-18-03	NE	TILL	4	46	27	8	2	4	5	T		T	T		4	5	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-18-02	NE	TILL	7.4	3.0	4.4	85.7	65.4	20.3	16.1	4.2
F87-18-03	NE	TILL	6.2	2.0	4.2	219.1	187.7	31.4	27.1	4.3

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-18-02	NO VISIBLE GOLD								EST. 0.5% PYRITE NATIVE COPPER 30 FINE GRAINS 30 COARSE GRAINS
F87-18-03	50 X 50		1					1	EST. 3% PYRITE
	100 X 150			1				1	
	100 X 175				1			1	
								3	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-18-01G	-1	2.0	-0.2	-1	-0.1	25.8	4	43.6	22	54	14	393		
F87-18-02G	2	2.0	-0.2	-1	-0.1	31.4	6	38.3	20	50	14	306		
F87-18-03G	3	2.0	-0.2	-1	-0.1	31.9	7	38.1	20	55	15	377		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-18-02H	130	124	116	1.6	2	3.1	4159.0	36	92.0	125	215	146	104		
F87-18-03H	79	71	57	1.3	2	0.5	873.6	26	94.0	75	167	112	51		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

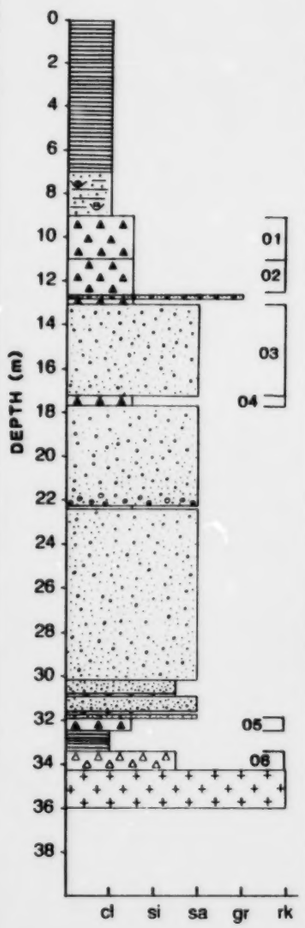
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-19

Township: Nelles **Collar Elevation:** 337 m

UTM Coordinates: 5403700 m N 404750 m E

Graphic Log:



Descriptive Log:

0.0-7.0m -mottled greyish-brown and brownish-grey silty clay and silt grading down to dark grey clay; well laminated (rhythmically from 1.5-7.0m); couplets 10-20 cms thick; silt laminae 1 mm thick; grit and pebble-free; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

7.0-9.0m -rhythmically laminated light buff gritty silt, silty very fine sand, and dark grey clay; numerous rip-up clasts of glaciolacustrine silt (1 cm diameter); couplets 5 cms thick; clay layers 0.5-1.0 cms thick; calcareous; pebbles up to 0.5 cms diameter; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

9.0-13.1m -dark grey silty clay grading to clayey silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density; calcareous; <5% clasts by volume; mainly subrounded-subangular carbonate clasts up to 5 cms diameter; numerous inclusions of fine to very fine sand (up to 5 cms diameter); gravel horizon from 12.7-13.0m; sharp lower contact: KEEWATIN TILL.

13.1-17.2m -light greyish-brown fine to very fine sand grading down to gritty fine to medium sand; well sorted; crudely bedded; mainly carbonate sand grains; sharp lower contact: KEEWATIN-DERIVED GLACIOFLUVIAL SAND.

17.2-17.7m -dark grey silty clay with numerous grits and pebbles; massive; poorly sorted; moderate density; calcareous; mainly carbonate clasts up to 6 cms diameter; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOW.

17.7-30.8m -light buff-grey fine to very fine sand grading down to silty very fine sand and sandy silt; grit and pebble-free; appears massive; water-saturated; well sorted; abundant small flakes of lignite; calcareous; dark grey clay with minor light buff very fine sand and silt between 22.3-22.4m; well laminated; grit and pebble-free; sharp lower contact: KEEWATIN-DERIVED GLACIOFLUVIAL SAND, SILT, AND CLAY.

30.8-32.5m -interbedded buff-grey very fine sand and dark grey sandy silt and clayey silt with numerous grits and pebbles; sand units are grit and pebble-free; appears massive to faintly laminated; well sorted; calcareous; diamicts are massive, poorly sorted, moderately dense and contain abundant carbonate pebbles up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SAND INTERBEDDED WITH KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

32.5-33.4m -dark greyish-brown clay with thin light grey silt laminae; grit and pebble-free; very plasticity and smooth; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

33.4-34.3m -light greenish-grey sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density; slightly calcareous; 10-15% clasts by volume; mainly subangular felsic, intermediate, and mafic extrusive lithologies up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

34.3-36.0m -dark green, fine grained, equigranular mafic volcanic; crystalline with needle amphiboles: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-19-01	9.1	11.0
F87-19-02	11.0	12.5
F87-19-03	13.1	17.2
F87-19-04	17.2	17.7
F87-19-05	31.9	32.5
F87-19-06	33.4	34.3

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-19-01	W	TILL	26.0	35.5	38.5	29.3	0.47
F87-19-02	W	TILL	30.0	36.0	34.0	28.3	0.54
F87-19-04	W	TILL	25.5	36.0	38.5	30.1	0.49
F87-19-05	W	TILL	21.0	57.0	42.0	27.7	0.46
F87-19-06	NE	TILL	40.0	52.0	8.0	4.7	0.47

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-19-01	W	TILL	20	36	20	7		8	7	T		2	T		T	9	
F87-19-03	W	TILL	14	29	20	5	2	12	14	T		3	T		1	1	
F87-19-05	W	TILL	8	48	12	10	T	10	11	T		T	T		1	17	
F87-19-06	NE	TILL	9	40	15	6	1	8	20	T		T	1		T	8	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-19-01	W	TILL	5.7	0.2	5.5	38.2	35.7	2.5	1.7	0.8
F87-19-03	W	TILL	8.3	0.4	7.9	78.3	46.9	31.4	18.7	12.7
F87-19-05	W	TILL	4.5	0.2	4.3	27.9	24.8	3.1	2.4	0.7
F87-19-06	NE	TILL	7.4	2.0	5.4	109.0	88.9	20.1	16.6	3.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-19-01	NO VISIBLE GOLD								
F87-19-03	25 X 25						1	1	EST. 15% PYRITE
	50 X 50		1						17% MARCASITE
	175 X 250	1						1	3% CHALCOPYRITE
								3	
F87-19-05	NO VISIBLE GOLD								
F87-19-06	50 X 75		1					1	EST. 30% PYRITE
	100 X 175	1						1	ABRADED NATIVE COPPER
	125 X 175		1					1	1 GRAIN 100 X 175
	200 X 225	1						1	1 GRAIN 200 X 225
	225 X 325	1						1	1 GRAIN 225 X 325
	225 X 425	1						1	1 GRAIN 275 X 425
								6	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-19-01G	-1	2.0	-0.2	2	-0.1	16.6	11	43.3	18	44	11	412		
F87-19-02G	-1	2.0	0.2	2	-0.1	15.6	8	41.4	18	47	11	401		
F87-19-04G	-1	2.0	0.2	3	-0.1	18.5	10	45.8	19	51	11	418		
F87-19-05G	-1	3.0	-0.2	3	-0.1	16.9	11	40.7	22	47	10	415		
F87-19-06G	9	4.0	-0.2	-1	-0.1	30.7	6	44.4	29	135	15	338		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-19-01H	-19		75	1.8	5		171.0	60	58.0	58	511	58	1305		
F87-19-03H	534		86	2.1	5		107.0	55	82.0	58	792	63	489		
F87-19-05H	-12		32	1.3	3		112.6	36	74.0	30	432	36	439		
F87-19-06H	330	143	281	3.1	2	0.6	718.1	40	147.0	167	296	131	95		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

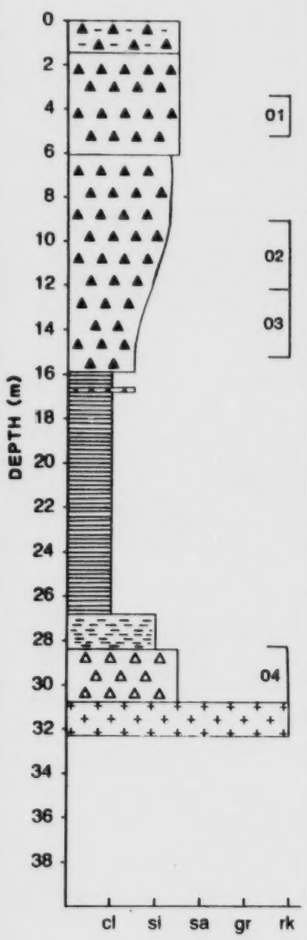
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-20

Township: Dilke **Collar Elevation:** 330 m

UTM Coordinates: 5396000 m N 404325 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -rhythmically laminated light buff-grey sandy silt with numerous grits and pebbles and dark grey clay; couplets 3 cms thick; clay laminae 1 cm thick; till layers contain <5% clasts by volume; mainly subrounded carbonate clasts; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

1.5-6.1m -mottled brown, orangy-brown, and greyish-brown sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density; dry and oxidized; calcareous; 5% clasts by volume; mainly subrounded carbonate clasts up to 4 cms diameter; some red siltstones noticed; numerous rotten crystalline clasts; sharp lower contact: KEEWATIN TILL.

6.1-15.9m -dark grey sandy silt grading down to clayey silt; loamy; numerous grits and pebbles; appears massive; poorly sorted; moderate density; <2% clasts by volume; mainly subrounded-subangular carbonates <1 cm diameter; sharp lower contact: KEEWATIN TILL.

15.9-19.8m -dark grey clay; appears massive; well sorted; very smooth and plasticity; calcareous; one gritty zone at 16.6m; some intraclasts of gritty and grit-free glaciolacustrine silt (1-2 mm diameter); gradational lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

19.8-26.8m -rhythmically laminated greyish-brown clay and silty clay and light grey silt; couplets 10-20 cms thick; silt laminae 1-2 mms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SILT RHYTHMITES.

26.8-28.4m -rhythmically laminated light greenish-grey silt and dark grey clay; couplets 10-20 cms thick; clay laminae 1 cm thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

28.4-30.8m -light greenish-grey sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density; loose; slightly calcareous; 10% subangular clasts by volume; mainly mafic extrusives and metagreywackes; most clasts <10 cms diameter; sharp lower contact: LABRADOREAN TILL.

30.8-32.3m -dark green, fine grained, equigranular mafic volcanic; crystalline with needle amphiboles: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-20-01	3.4	5.2
F87-20-02	9.1	12.2
F87-20-03	12.2	15.2
F87-20-04	28.3	30.8

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-20-01	W	TILL	30.0	43.5	26.5	30.8	0.43
F87-20-02	W	TILL	33.0	36.0	31.0	32.5	0.44
F87-20-03	W	TILL	29.5	39.5	31.0	31.5	0.43
F87-20-04	NE	TILL	32.5	60.5	7.0	4.9	0.71

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-20-02	W	TILL	356	4.5	0.6	27.0	0.0	0.6	0.3	63.2	3.4	0.0	0.6
F87-20-04	NE	TILL	290	13.8	27.2	16.5	17.2	0.0	24.5	0.0	0.0	0.0	0.7

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-20-02	W	TILL	20	33	11	6	4	11	11	T	1	1	T		2	5	
F87-20-04	NE	TILL	16	43	14	5	3	4	13	T		2	T		T	3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-20-02	W	TILL	7.5	0.4	7.1	56.5	53.5	3.0	2.0	1.0
F87-20-04	NE	TILL	9.8	2.1	7.7	90.4	67.1	23.3	18.0	5.3

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-20-02	NO VISIBLE GOLD								
F87-20-04	525 X 850			1				1	EST. 3% PYRITE
									ABRADED NATIVE COPPER
								1	1 GRAIN 125 X 150
									1 GRAIN 175 X 200
									2 GRAINS 175 X 250
									1 GRAIN 175 X 300
									1 GRAIN 175 X 325
									1 GRAIN 200 X 250
									1 GRAIN 200 X 400
									1 GRAIN 225 X 300
									1 GRAIN 225 X 350
									1 GRAIN 250 X 325
									1 GRAIN 300 X 700
									1 GRAIN 325 X 400
									1 GRAIN 400 X 725

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-20-01G	-1	3.0	0.2	3	-0.1	14.9	9	41.2	16	36	9	372		
F87-20-02G	-1	2.0	-0.2	2	-0.1	13.2	9	34.9	14	36	10	372		
F87-20-03G	-1	2.0	0.2	2	-0.1	14.5	8	38.9	18	49	9	386		
F87-20-04G	-1	1.0	-0.2	-1	-0.1	23.7	2	27.1	18	70	13	329		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-20-02H	420		74	2.2	3		120.4	64	114.0	62	631	62	1100		
F87-20-04H	6370	20000+	137	1.6	3	0.5	460.7	24	56.0	150	515	152	56		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

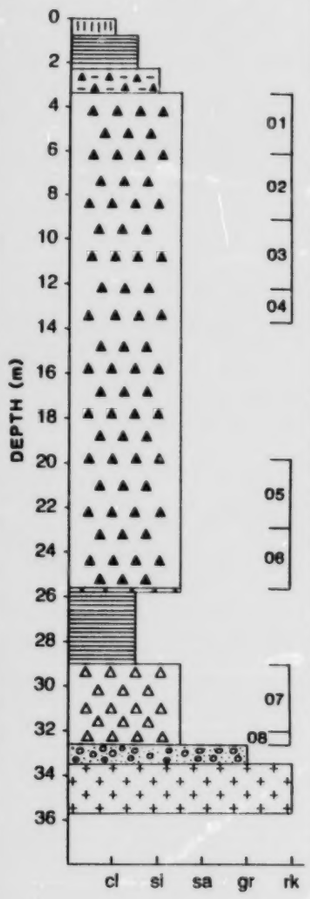
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-21

Township: Morley **Collar Elevation:** 336 m

UTM Coordinates: 5392200 m N 408300 m E

Graphic Log:



Descriptive Log:

0.0-0.8m -TOPSOIL AND FILL.

0.8-2.3m -mottled dark orangy-brown, greyish-brown, and grey silty clay and clay; grit and pebble-free; faintly laminated; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

2.3-3.4m -rhythmically laminated light brown to greyish-brown silt with numerous grits and pebbles and dark grey clay; couplets 10-20 cms thick; clay laminae 1 cm thick; coarse layers appear massive; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

3.4-25.6m -mottled brown and greyish-brown grading down to dark grey sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; dry; 5% clasts by volume; mainly subangular-subrounded carbonate clasts up to 7 cms diameter; some weathered crystalline clasts present; some clasts faceted and striated; sharp lower contact: KEEWATIN TILL.

25.6-25.8m -dark brownish-grey silty very fine sand with numerous grits and pebbles; faint laminae of very fine sand and clay present; moderately-poorly sorted; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

25.8-29.0m -massive dark grey clay grading down to rhythmically laminated dark grey and brownish-grey clay and light grey silt; rhythmically laminated from 26.8m; upper clays are calcareous, smooth, plasticity, and grit and pebble-free; couplets are 3-4 cms thick; silt laminae 5-10 mm thick; all calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

29.0-32.6m -light olive-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density; slightly calcareous; 10% clasts by volume; mainly subangular felsic-intermediate intrusives and mafic-intermediate extrusives; clasts up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

32.6-33.5m -greenish-grey pebble gravel grading down to coarse cobble gravel; moderately sorted; 35% clasts by volume; clasts subrounded; similar pebble lithologies to overlying till; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL GRAVEL.

33.5-35.7m -deeply weathered, medium grained, hornblende granodiorite; feldspars totally altered to clay; quartz and hornblende survived: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-21-01	3.4	6.1	F87-21-05	19.8	22.9
F87-21-02	6.1	9.1	F87-21-06	22.9	25.6
F87-21-03	9.1	12.2	F87-21-07	29.0	32.0
F87-21-04	12.2	13.7	F87-21-08	32.0	32.6

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-21-01	W	TILL	31.5	42.5	26.0	32.4	0.37
F87-21-02	W	TILL	32.5	42.0	25.5	32.3	0.44
F87-21-03	W	TILL	34.0	41.5	24.5	33.5	0.39
F87-21-04	W	TILL	51.0	24.5	24.5	32.9	0.44
F87-21-05	W	TILL	31.0	44.0	25.0	32.3	0.43
F87-21-06	W	TILL	28.0	45.0	27.0	30.4	0.33
F87-21-07	NE	TILL	52.5	43.0	4.5	6.7	0.56
F87-21-08	NE	TILL	53.0	44.0	3.0	3.8	0.41

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-21-02	W	TILL	270	1.5	3.7	24.9	0.4	0.0	0.0	60.0	7.8	1.1	0.7
F87-21-04	W	TILL	326	4.0	1.5	20.0	3.1	0.0	3.7	61.3	5.2	0.6	0.6
F87-21-06	W	TILL	237	7.6	0.4	17.7	0.0	0.0	1.7	59.1	11.3	0.4	2.1
F87-21-07	NE	TILL	515	12.6	23.0	34.2	19.6	3.3	0.4	2.1	0.2	0.2	3.9
F87-21-08	NE	TILL	350	7.7	22.3	35.7	16.3	10.3	3.7	1.7	0.0	0.6	1.7

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-21-02	W	TILL	16	39	6	8	7	13	7			4	T		T	2	
F87-21-04	W	TILL	14	27	11	4	6	19	14	1	1	2	T		1	4	
F87-21-06	W	TILL	20	27	12	7	5	9	16	1	T	1	1		1	1	
F87-21-07	NE	TILL	14	32	11	9	3	9	19	T		1	T		2	4	
F87-21-08	NE	TILL	7	49	22	5		6	9	T		T	T		2	4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-21-02	W	TILL	5.3	0.2	5.1	31.7	27.7	4.0	2.7	1.3
F87-21-04	W	TILL	8.0	0.4	7.6	26.8	22.0	4.8	3.1	1.7
F87-21-06	W	TILL	5.8	0.2	5.6	38.2	34.1	4.1	2.7	1.4
F87-21-07	NE	TILL	10.0	2.5	7.5	59.3	35.0	24.3	18.2	6.1
F87-21-08	NE	TILL	5.3	2.9	2.4	62.0	51.6	10.4	8.3	2.1

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-21-02	50 X 75			1				1	
								1	
F87-21-04	NO VISIBLE GOLD								
F87-21-06	NO VISIBLE GOLD								
F87-21-07	75 X 225			1				1	
								1	
F87-21-08	50 X 75		1					1	EST. 25% PYRITE
	50 X 100	1						1	5% MARCASITE
								2	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-21-01G	-1	2.0	0.2	2	-0.1	16.2	10	40.2	16	38	10	395		
F87-21-02G	-1	4.0	0.2	1	-0.1	14.7	9	43.0	14	48	9	366		
F87-21-03G	-1	2.0	0.2	2	-0.1	14.5	12	42.6	16	29	8	410		
F87-21-04G	7	2.0	0.2	2	-0.1	14.1	12	39.3	14	28	8	406		
F87-21-05G	-1	2.0	0.2	2	-0.1	13.4	7	38.9	14	28	7	400		
F87-21-06G	-1	2.0	0.2	2	-0.1	15.3	9	39.7	15	33	8	406		
F87-21-07G	38	2.0	0.2	-1	-0.1	28.7	6	36.5	25	71	13	429		
F87-21-08G	7	2.0	0.2	-1	-0.1	42.6	5	51.7	37	100	15	477		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-21-02H	62		48	2.6	5		87.3	44	141.0	45	763	44	1570		
F87-21-04H	170		68	2.6	7		85.9	57	153.0	60	724	50	2130		
F87-21-06H	210		89	3.5	9		96.5	75	146.0	75	664	54	3310		
F87-21-07H	536	973	258	3.0	1	0.6	305.0	35	55.0	111	348	187	87		
F87-21-08H	430	220	216	3.1	2	0.7	393.8	46	65.0	98	319	154	141		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

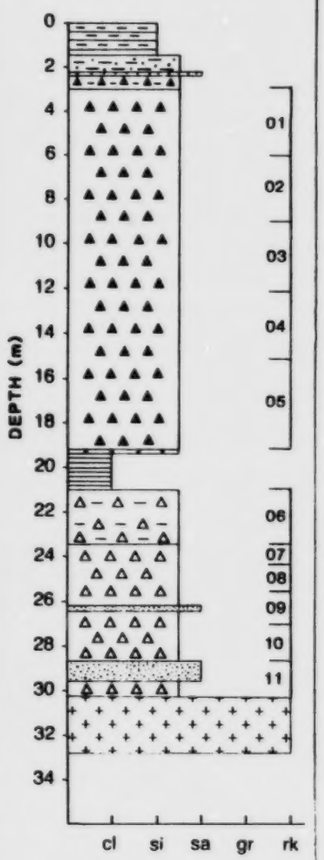
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-22

Township: Dilke **Collar Elevation: 331 m**

UTM Coordinates: 5395750 m N 399525 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -mottled dark greyish-brown and buff brownish-grey silty clay and silt; grit and pebble-free; well sorted; rhythmically laminated with depth; couplets 0.5-0.75 cms thick; calcareous; some carbonate concretions present; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND CLAY.

1.5-2.3m -mottled buff-brown and buff-grey silt, clayey silt, and silty very fine sand; well laminated; grit and pebble-free; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND VERY FINE SAND.

2.3-2.4m -light greyish-brown fine sand with a few pebbles; mainly carbonate clasts and sand grains; well sorted and stratified; sharp lower contact: MOORHEAD PHASE FLUVIAL SAND.

2.4-3.1m -rhythmically laminated light greyish-brown gritty and slightly pebbly sandy silt and dark grey clay; couplets 10-15 cms thick; clay layers 1.0-1.5 cms thick; soft and plasticity; calcareous; coarse layers massive; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

3.1-19.2m -light greyish-brown grading to dark grey sandy silt with numerous grits and pebbles; poorly sorted; appears massive; moderate density; fairly stiff; calcareous; 3-4% clasts by volume; mainly subangular-subrounded carbonate clasts up to 5 cms diameter; sharp lower contact; KEEWATIN TILL.

19.2-19.4m -brownish-grey sandy silt with a few grits and small pebbles; less gritty than overlying till; appears massive; poorly sorted; calcareous; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOW.

19.4-21.0m -rhythmically laminated dark grey clay and light grey silt; couplets 5-6 cms thick; silt laminae 1-2 mms thick; upper 0.4m grit and pebble-free; numerous intraclasts of dark brownish-grey sandy silt and silty very fine sand with a few grits (2-3 cms diameter); gritty silty clay layers present; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

21.0-23.5m -dark olive-grey sandy silt with some grits and pebbles; unit is very soft and water saturated; 5-10 cm thick diamicton layers interstratified with thin clay laminae; sandy silt is slightly calcareous; clay layers are moderately calcareous; numerous subangular pebbles 3-7 cms diameter; mainly mafic-intermediate extrusives and felsic-intermediate intrusives; sharp lower contact: LABRADOREAN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

23.5-30.3m -dark greyish-brown to light greenish-grey sandy silt to silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive except for some layers of very fine sand to pebble gravel between 26.2-26.5m and 28.7-29.6m; sand units have sharp upper and lower contacts; moderate density and compaction; lower 0.3m slightly more dense and compact; 10-25% clasts by volume; mainly subangular-subrounded mafic-intermediate extrusive and felsic-intermediate intrusive clasts; clasts up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

30.3-32.8m -light green, very fine grained, amygdaloidal, spherulitic mafic volcanic; chloritic: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-22-01	3.0	6.1	F87-22-06	21.0	23.5
F87-22-02	6.1	9.1	F87-22-07	23.5	24.4
F87-22-03	9.1	12.2	F87-22-08	24.4	25.6
F87-22-04	12.2	15.2	F87-22-09	25.6	27.1
F87-22-05	15.2	19.2	F87-22-10	27.1	28.7
			F87-22-11	28.7	30.3

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-22-01	W	TILL	32.0	46.0	22.0	32.3	0.33
F87-22-02	W	TILL	35.0	41.0	24.0	31.8	0.39
F87-22-03	W	TILL	32.0	42.5	25.5	31.8	0.42
F87-22-04	W	TILL	38.0	36.0	26.0	29.6	0.35
F87-22-05	W	TILL	31.0	42.5	26.5	32.5	0.39
F87-22-06	NE	TILL	39.0	50.0	11.0	10.2	0.73
F87-22-07	NE	TILL	62.5	28.5	9.0	11.8	0.49
F87-22-08	NE	TILL	63.0	33.5	3.5	3.8	0.69
F87-22-09	NE	TILL	44.0	52.0	4.0	2.4	0.36
F87-22-10	NE	TILL	34.0	61.0	5.0	2.5	0.54
F87-22-11	NE	TILL	56.0	42.0	2.0	2.2	0.62

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-22-02	W	TILL	300	2.7	0.7	21.0	2.0	1.3	1.6	61.3	8.2	0.0	1.2
F87-22-04	W	TILL	267	0.7	0.4	26.6	0.0	0.0	0.0	57.7	11.9	2.6	0.0
F87-22-06	NE	TILL	453	4.4	26.7	42.2	16.6	1.8	0.9	1.5	0.4	0.7	4.9
F87-22-07	NE	TILL	291	5.2	32.3	43.9	13.1	0.3	2.4	0.3	0.0	0.3	2.1
F87-22-08	NE	TILL	275	9.5	22.5	36.8	21.8	0.4	5.5	0.7	0.0	1.1	1.8
F87-22-09	NE	TILL	441	7.3	24.7	50.3	12.0	0.0	5.2	0.2	0.0	0.0	0.2
F87-22-10	NE	TILL	488	4.1	34.8	35.9	22.3	0.0	1.0	0.0	0.0	0.2	1.6
F87-22-11	NE	TILL	528	5.5	22.9	32.7	34.1	0.0	2.4	0.0	0.0	0.0	2.3

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-22-02	W	TILL	14	40	15	8	2	6	11	4		T	T		T	3	
F87-22-04	W	TILL	13	25	15	7	5	15	15	T	1	3	T		1	2	
F87-22-06	NE	TILL	10	31	19	11	7	8	12	1		T	T		1	8	
F87-22-07	NE	TILL	8	44	15	9	1	9	11	1		1	T		1	5	
F87-22-08	NE	TILL	9	44	13	11	1	14	6	T	1	T	T		1	10	
F87-22-09	NE	TILL	14	32	23	12	3	7	8	T		1			T	8	
F87-22-10	NE	TILL	13	39	17	14	T	7	7			1			2	8	
F87-22-11	NE	TILL	17	37	16	14		5	5	1	1	3			1	7	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-22-02	W	TILL	6.0	0.4	5.6	66.1	60.0	6.1	4.0	2.1
F87-22-04	W	TILL	5.7	0.3	5.4	156.3	147.8	8.5	5.9	2.6
F87-22-06	NE	TILL	8.2	0.9	7.3	133.3	112.7	20.6	16.8	3.8
F87-22-07	NE	TILL	5.6	2.1	3.5	179.8	159.9	19.9	15.6	4.3
F87-22-08	NE	TILL	7.5	1.3	6.2	210.6	184.9	25.7	20.0	5.7
F87-22-09	NE	TILL	9.5	2.1	7.4	194.3	152.9	41.4	34.0	7.4
F87-22-10	NE	TILL	7.2	1.2	6.0	144.0	117.7	26.3	21.1	5.2
F87-22-11	NE	TILL	8.3	2.8	5.5	187.8	168.5	19.3	15.5	3.8

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-22-02	NO VISIBLE GOLD								
F87-22-04	NO VISIBLE GOLD								
F87-22-06	NO VISIBLE GOLD								
F87-22-07	50 X 75			1					EST. 0.5% PYRITE 25 GRAINS COPPER (FINE) 1 GRAIN COPPER 25 X 150 1 GRAIN COPPER 100 X 100 1 GRAIN COPPER 175 X 200 1 GRAIN COPPER 175 X 300
	50 X 100	1						2	EST. 25% PYRITE EST. 10% MARCASITE 15 GRAINS TARNISHED COPPER 1 GRAIN COPPER 200 X 350 1 GRAIN COPPER 225 X 300 1 GRAIN COPPER 250 X 350 1 GRAIN COPPER 250 X 425 1 GRAIN COPPER 250 X 450 1 GRAIN COPPER 275 X 400 1 GRAIN COPPER 325 X 500 1 GRAIN COPPER 350 X 450 1 GRAIN COPPER 500 X 800 1 GRAIN COPPER 850 X 1000
F87-22-08	50 X 75			1					EST. 25% PYRITE
	100 X 125					1		2	EST. 10% MARCASITE 30 GRAINS NATIVE COPPER 1 GRAIN COPPER 175 X 200 1 GRAIN COPPER 200 X 250 2 GRAINS COPPER 200 X 250 1 GRAIN COPPER 200 X 375 1 GRAIN COPPER 200 X 400 1 GRAIN COPPER 250 X 350 1 GRAIN COPPER 250 X 375 1 GRAIN COPPER 325 X 475 1 GRAIN COPPER 400 X 1100 1 GRAIN COPPER 475 X 725
F87-22-09	50 X 100	1							EST. 30% PYRITE
	125 X 200	1						2	EST. 5% MARCASITE 10 GRAINS NATIVE COPPER 1 GRAIN COPPER 100 X 150 1 GRAIN COPPER 200 X 400 2 GRAINS COPPER 250 X 325 1 GRAIN COPPER 300 X 325 1 GRAIN COPPER 300 X 800
F87-22-10	NO VISIBLE GOLD								EST. 25% PYRITE EST. 5% MARCASITE 10 GRAINS NATIVE COPPER 1 GRAIN COPPER 125 X 225 1 GRAIN COPPER 125 X 425 1 GRAIN COPPER 225 X 575 1 GRAIN COPPER 350 X 525 1 GRAIN COPPER 375 X 400 1 GRAIN COPPER 375 X 550
F87-22-11	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-22-01G	-1	2.0	0.2	2	-0.1	13.5	8	34.0	15	24	8	397		
F87-22-02G	-1	3.0	0.2	3	-0.1	15.8	8	42.4	16	35	8	400		
F87-22-03G	-1	3.0	0.2	3	-0.1	14.5	8	36.2	14	44	7	401		
F87-22-04G	-1	3.0	0.2	3	-0.1	14.6	10	47.8	13	38	8	408		
F87-22-05G	-1	3.0	0.2	3	-0.1	15.2	9	46.0	15	28	9	364		
F87-22-06G	3	2.0	0.2	1	0.2	19.4	7	40.7	29	99	8	437	5	-1
F87-22-07G	3	3.0	0.2	2	-0.1	17.3	7	27.8	22	98	6	364	-5	-1
F87-22-08G	5	1.0	-0.2	-1	-0.1	12.9	6	16.3	18	99	5	332	-5	-1
F87-22-09G	4	1.0	-0.2	-1	0.1	15.2	7	18.8	21	126	5	335	-5	-1
F87-22-10G	1	1.0	-0.2	-1	-0.1	13.0	5	20.0	16	110	5	319	-5	-1
F87-22-11G	2	1.0	-0.2	-1	-0.1	20.2	6	22.8	35	178	8	246	-5	-1

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-22-02H	180		92	3.6	8		63.0	63	148.0	77	787	55	5000		
F87-22-04H	25		92	3.7	8		104.6	46	197.0	67	691	49	5640		
F87-22-06H	120	138	69	1.7	3	0.5	352.0	27	84.0	95	484	84	479	-13	3
F87-22-07H	160	55	102	1.6	4	0.4	970.0	31	104.9	109	450	100	471	-6	4
F87-22-08H	230	77	75	1.2	4	0.4	549.4	27	78.3	93	463	100	63	-11	2
F87-22-09H	400	159	77	1.2	3		472.1	19	56.0	90	404	77	82	-6	3
F87-22-10H	230	233	65	1.1	3	0.2	176.6	22	56.8	98	394	92	41	-9	4
F87-22-11H	130	114	69	1.3	3	0.4	611.0	22	66.5	103	375	88	55	10	6

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

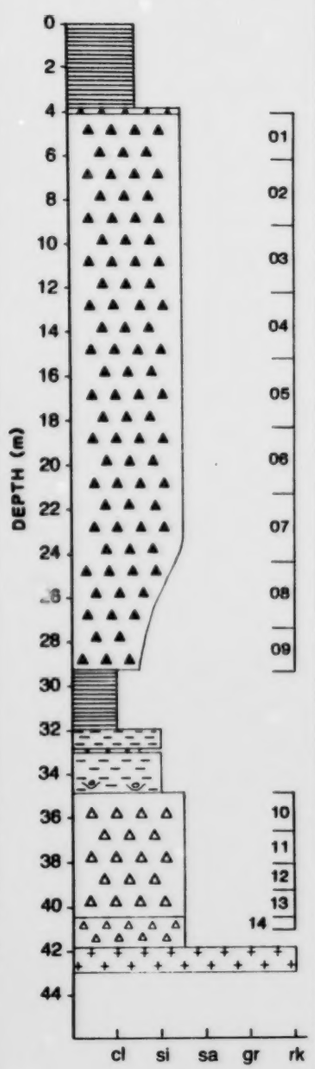
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-22-06M	11	6	6	0.3	4		36.4	15	61.0	64	2040	35	38	-29	-6
F87-22-07M	7	5	7	0.5	15		44.7	13	62.0	70	1970	49	45	-26	79
F87-22-08M	-5	20	7	0.4	3		37.3	12	55.0	54	2190	35	54	-25	35
F87-22-09M	9	13	4	0.3	3		38.2	11	55.0	52	2050	32	54	-17	43
F87-22-10M	8	30	4	0.3	2		45.8	12	72.9	53	2200	30	65	40	-5
F87-22-11M	-5	11	6	0.6	13		52.1	12	56.5	63	2030	36	226	-27	53

Sonic Borehole Number: F87-23

Township: Blue **Collar Elevation: 337 m**

UTM Coordinates: 5399050 m N 394850 m E

Graphic Log:



Descriptive Log:

0.0-3.8m -mottled orangy-brown, brown, and brownish-grey grading to dark grey clay, silty clay, and clayey silt; grit and pebble-free except for a few tiny pebbles near base; appears massive (weathered); calcareous; numerous carbonate concretions; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY AND SILT.

3.8-4.1m -laminated buff-brown gritty, pebbly sandy silt and greyish-brown to grey, grit-free sandy silt, silt, and clay; calcareous, moderately-poorly sorted; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

4.1-29.3m -light brownish-grey to grey silty very fine sand and sandy silt with numerous grits and pebbles grading to a clayey silt loam with fewer grits and pebbles; poor sorting; appears massive; moderate density and compaction; stiff and dry; calcareous; <5% clasts by volume; mainly subrounded carbonate pebbles <1 cm diameter; some crystalline lithologies; sharp lower contact: KEEWATIN TILL.

29.3-32.0m -dark grey clay with minor light grey silt laminae; grit and pebble-free; very plasticity and soft; calcareous; a few inclusions of glaciolacustrine silt (1-3 mms diameter); sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

32.0-32.9m -rhythmically laminated light greenish-grey silt and dark greyish-brown clay; couplets 3-4 cms thick; moderately calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

32.9-33.1m -dark greyish-brown silty clay with numerous grits and pebbles; appears massive; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOW.

33.1-34.9m -same as from 32.0-32.9m; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

34.9-40.5m -olive-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density and compaction; slightly calcareous; 10% clasts by volume; mainly subangular mafic-intermediate extrusives and felsic-intermediate intrusives; clasts up to 15 cms diameter; sharp lower contact: LABRADOREAN TILL.

40.5-41.9m -brown to olive-brown sandy silt with numerous grits and pebbles; poorly sorted; appears massive; slightly calcareous; appears oxidized and weathered; very dense and compact; 5-10% clasts by volume; mainly subangular mafic intrusives (lamprophyres); sharp lower contact: OLDER, WEATHERED LABRADOREAN TILL.

41.9-43.0m -dark green, feldspar phyric mafic volcanic: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-23-01	4.0	6.1	F87-23-08	24.4	27.4
F87-23-02	6.1	9.1	F87-23-09	27.4	29.4
F87-23-03	9.1	12.2	F87-23-10	34.9	36.6
F87-23-04	12.2	15.2	F87-23-11	36.6	38.1
F87-23-05	15.2	18.3	F87-23-12	38.1	39.3
F87-23-06	18.3	21.3	F87-23-13	39.3	40.5
F87-23-07	21.3	24.4	F87-23-14	40.5	41.1

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-23-01	W	TILL	34.0	49.0	17.0	36.5	0.35
F87-23-02	W	TILL	36.0	42.0	22.0	35.8	0.39
F87-23-03	W	TILL	45.0	34.0	21.0	36.2	0.44
F87-23-04	W	TILL	38.5	38.0	23.5	36.3	0.45
F87-23-05	W	TILL	44.0	33.0	23.0	35.8	0.49
F87-23-06	W	TILL	29.0	47.0	24.0	35.6	0.59
F87-23-07	W	TILL	40.0	35.0	25.0	32.6	0.51
F87-23-08	W	TILL	32.0	34.5	33.5	30.5	0.53
F87-23-09	W	TILL	29.0	38.0	33.0	30.6	0.55
F87-23-10	NE	TILL	47.0	40.5	12.5	5.7	0.40
F87-23-11	NE	TILL	42.0	44.5	13.5	6.0	0.48
F87-23-12	NE	TILL	49.0	41.5	9.5	2.7	0.38
F87-23-13	NE	TILL	47.5	43.5	9.0	2.2	0.31
F87-23-14	NE	TILL	36.0	44.0	20.0	1.2	0.85

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-23-02	W	TILL	358	1.1	0.0	23.7	2.0	0.3	0.0	65.6	6.1	0.6	0.9
F87-23-04	W	TILL	455	3.5	0.0	20.4	0.9	1.1	2.0	69.0	2.2	0.0	0.7
F87-23-06	W	TILL	327	4.0	1.8	23.5	1.8	0.0	0.3	66.7	1.5	0.0	0.3
F87-23-08	W	TILL	198	3.5	3.0	19.7	1.0	0.0	0.5	69.7	1.0	0.0	1.5
F87-23-10	NE	TILL	384	1.8	20.3	25.8	45.1	0.0	0.8	0.8	0.0	0.0	5.4
F87-23-11	NE	TILL	337	1.8	22.3	30.6	35.0	0.0	0.0	0.6	0.0	1.8	8.0
F87-23-12	NE	TILL	446	14.6	12.8	21.3	41.5	0.2	1.1	0.2	0.0	0.0	8.3
F87-23-13	NE	TILL	390	2.1	15.9	36.9	42.3	0.0	0.0	0.0	0.0	1.3	1.5
F87-23-14	NE	TILL	411	85.2	1.5	3.9	1.5	3.6	1.2	0.0	0.0	0.5	2.7

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-23-02	W	TILL	24	35	10	5	4	8	13			T	T		1	7	
F87-23-04	W	TILL	11	37	18	10	4	10	7	1		1	T		1	6	
F87-23-06	W	TILL	15	39	17	7	1	8	6	T		3	1		3	6	
F87-23-08	W	TILL	18	34	11	8	4	6	13	3		1	T		2	11	
F87-23-10	NE	TILL	2	51	12	4	T	6	15			3			7	5	
F87-23-11	NE	TILL	3	49	14	3	2	2	22			1	1		3	2	
F87-23-12	NE	TILL	4	55	11	6	1	5	14			1	1		2	3	
F87-23-13	NE	TILL	8	47	11	11	T	13	9	T		T	T		1	2	
F87-23-14	NE	TILL	4	55	17	3	T	9	12			T			T	2	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F87-23-02	W	TILL	5.6	0.6	5.0	63.1	54.2	8.9	6.0	2.9
F87-23-04	W	TILL	6.8	0.8	6.0	49.4	36.6	12.8	8.6	4.2
F87-23-06	W	TILL	6.5	0.5	6.0	112.8	100.3	12.5	8.3	4.2
F87-23-08	W	TILL	5.1	0.2	4.9	65.4	57.5	7.9	5.2	2.7
F87-23-10	NE	TILL	7.5	2.1	5.4	126.7	90.3	36.4	33.5	2.9
F87-23-11	NE	TILL	7.1	1.5	5.6	141.0	102.5	38.5	35.3	3.2
F87-23-12	NE	TILL	7.7	1.4	6.3	160.7	110.8	49.9	45.9	4.0
F87-23-13	NE	TILL	6.0	1.2	4.8	127.9	92.6	35.3	31.0	4.3
F87-23-14	NE	TILL	7.2	2.1	5.1	110.3	91.3	19.0	16.9	2.1

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-23-02	NO VISIBLE GOLD								
F87-23-04	NO VISIBLE GOLD								
F87-23-06	100 X 125	1						1	EST. 5% PYRITE EST. 15% MARCASITE
								1	
F87-23-08	NO VISIBLE GOLD								
F87-23-10	100 X 125			1					EST. 20% PYRITE 2 GRAINS COPPER (FINE)
								1	
F87-23-11	NO VISIBLE GOLD								
F87-23-12	NO VISIBLE GOLD								
F87-23-13	NO VISIBLE GOLD								
F87-23-14	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-23-01G	-1	2.0	0.2	3	-0.1	11.9	9	33.2	12	31	6	351		
F87-23-02G	-1	2.0	0.2	2	-0.1	12.0	7	37.2	12	42	7	381		
F87-23-03G	-1	2.0	0.2	2	-0.1	11.9	9	33.8	12	37	8	354		
F87-23-04G	-1	2.0	0.2	3	-0.1	11.8	8	31.5	12	34	6	358		
F87-23-05G	-1	2.0	0.2	3	-0.1	14.3	7	36.2	12	28	7	311		
F87-23-06G	-1	2.0	0.2	2	-0.1	12.5	8	31.2	13	44	8	393		
F87-23-07G	-1	2.0	0.2	2	-0.1	13.2	9	34.9	14	39	8	397		
F87-23-08G	-1	2.0	0.2	3	-0.1	16.4	8	36.3	16	47	8	412		
F87-23-09G	-1	2.0	0.2	3	-0.1	16.5	9	37.0	15	34	9	397		
F87-23-10G	5	2.0	-0.2	-1	0.1	36.5	8	52.0	66	224	16	325	-5	2
F87-23-11G	4	2.0	0.2	-1	-0.1	37.8	7	51.7	71	262	18	327	6	3
F87-23-12G	8	2.0	0.2	1	0.1	46.3	5	48.6	93	402	24	282	9	5
F87-23-13G	3	2.0	0.2	1	-0.1	38.4	3	41.6	69	360	18	397	9	4
F87-23-14G	1	1.0	0.2	1	-0.1	129.4	3	70.4	41	155	28	130	14	6

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-23-02H	310		89	3.0	8		107.2	55	151.0	82	703	57	2030		
F87-23-04H	41		60	2.4	5		82.3	57	119.0	52	669	45	881		
F87-23-06H	160		79	2.4	5		98.8	57	127.0	72	668	52	1130		
F87-23-08H	45		72	3.0	7		98.7	62	125.0	62	673	52	935		
F87-23-10H	110	84	133	1.4	3	1.9	1108.8	34	154.1	181	298	128	106	15	14
F87-23-11H	58	51	129	1.3	3	0.5	1506.1	50	161.6	183	312	124	89	18	13
F87-23-12&13H	78	289	107	1.1	4	0.3	890.4	26	114.6	178	323	125	59	108	93
F87-23-14H	50	13	62	1.1	4	0.4	2207.4	22	98.9	135	546	133	80	25	23

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

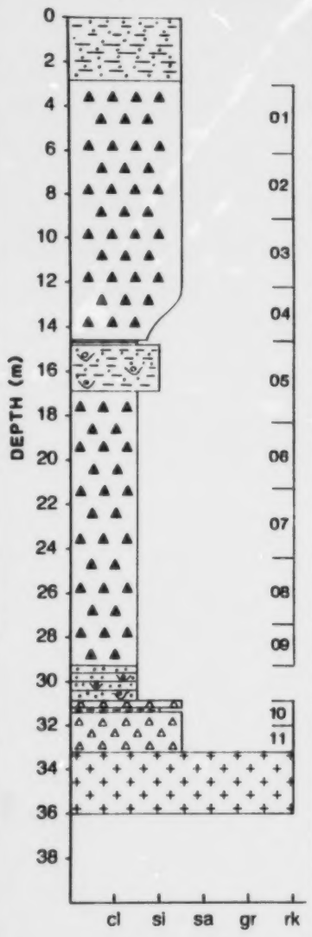
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-23-10M	-5	25	11	0.4	5		90.0	14	54.4	96	3970	59	86	-64	38
F87-23-11M	6	-8	18	0.4	5		63.3	12	75.8	105	3930	55	54	-41	-8
F87-23-12M	-5	-6	9	0.4	6		79.0	10	54.2	107	3980	57	86	-32	64
F87-23-13M	-5	15	4	-0.2	2		49.3	10	50.4	66	4130	45	61	45	-8
F87-23-14M	-5	7	10	1.1	12		71.6	10	45.7	81	2970	29	2110	45	89

Sonic Borehole Number: F87-24

Township: Worthington **Collar Elevation:** 332 m

UTM Coordinates: 5394850 m N 391600 m E

Graphic Log:



Descriptive Log:

0.0-2.9m -light buff-brown to buff-grey silty very fine sand and sandy silt; grit and pebble-free; well sorted; laminated; calcareous; some iron staining; a few mollusc shells present; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SAND AND SILT.

2.9-14.6m -light greyish-brown grading to dark grey sandy silt; lower 2.0m grades to a clayey silt; numerous grits and pebbles; poorly sorted; appears massive; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded carbonate clasts <1 cm diameter; some lignite present; sharp lower contact: KEEWATIN TILL.

14.6-14.8m -dark grey clay, silty clay, clayey silt, and silt; a few grits and pebbles; laminated; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SILT.

14.8-16.9m -dark grey silt with some very fine sand and clay; numerous grits and pebbles; abundant intraclasts of glaciolacustrine silt and gritty silt; appears massive; poorly sorted; loose; <2% clasts by volume; abundant carbonates, grey shale, and lignite; sharp lower contact: KEEWATIN-DERIVED WATERLAIN DIAMICTON.

16.9-29.3m -dark grey clayey silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly carbonates, grey shales, and minor lignite; sharp lower contact; KEEWATIN TILL.

29.3-30.9m -dark grey to grey silty clay and silty clay with a few grits and pebbles; faint laminations of light grey silt; numerous layers of gritty and pebbly silty clay to clayey silt; lower 0.3m well laminated silt and clay; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SUBAQUEOUS DEBRIS FLOWS.

30.9-33.2m -dark greenish-grey sandy silt with numerous grits and pebbles; poorly sorted; appears massive except for a layer of stratified silt between 31.2-31.4m; soft and loose grading down to hard and dense; moderately calcareous; 10% clasts by volume; mainly subangular-subrounded mafic-intermediate extrusives, felsic-intermediate intrusives, and chloritized siltstones; sharp lower contact: LABRADOREAN TILL.

33.2-36.0m -banded green and pink, medium grained interflow metasediment; feldspar and quartz clastic bands with fine grained chloritic bands: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-24-01	3.0	6.1
F87-24-02	6.1	9.1
F87-24-03	9.1	12.2
F87-24-04	12.2	14.6
F87-24-05	14.8	18.3
F87-24-06	18.3	21.3
F87-24-07	21.3	24.4
F87-24-08	24.4	27.4
F87-24-09	27.4	29.3
F87-24-10	30.9	32.0
F87-24-11	32.0	33.2

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-24-01	W	TILL	28.0	45.5	26.5	31.5	0.43
F87-24-02	W	TILL	33.5	38.5	28.0	29.6	0.46
F87-24-03	W	TILL	37.0	34.0	29.0	30.7	0.46
F87-24-04	W	TILL	29.5	42.5	28.0	30.8	0.44
F87-24-05	W	TILL	21.0	46.0	33.0	25.2	0.52
F87-24-07	W	TILL	26.5	37.5	36.0	21.3	0.35
F87-24-08	W	TILL	25.0	40.0	35.0	21.7	0.34
F87-24-09	W	TILL	22.0	40.0	38.0	21.4	0.47
F87-24-10	NE	TILL	27.0	59.0	14.0	10.1	0.40
F87-24-11	NE	TILL	28.0	58.5	13.5	5.2	0.42

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-24-02	W	TILL	115	1.7	0.9	21.8	1.7	0.0	3.4	57.4	13.1	0.0	0.0
F87-24-04	W	TILL	229	0.0	4.8	22.7	2.6	0.0	0.0	62.0	7.4	0.0	0.4
F87-24-05	W	TILL	202	3.5	3.0	21.8	2.5	0.0	0.5	41.4	27.6	0.0	0.0
F87-24-07	W	TILL	88	0.0	3.4	17.0	0.0	0.0	0.0	37.5	39.7	1.1	1.1
F87-24-09	W	TILL	191	0.5	5.2	18.8	0.5	0.0	0.0	41.4	32.4	0.0	1.0
F87-24-10	NE	TILL	240	1.7	29.6	33.4	23.8	2.1	0.0	0.8	0.0	0.4	8.3
F87-24-11	NE	TILL	430	1.6	10.5	12.1	0.0	17.9	56.7	0.7	0.0	0.0	0.5

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-24-02	W	TILL	12	40	22	7	4	6	6	1		2	T		T	5	
F87-24-04	W	TILL	10	33	13	18	6	9	7	T		1	T		3	11	
F87-24-05	W	TILL	6	38	15	8	3	9	17			3	T		1	7	
F87-24-07	W	TILL	13	30	20	4	4	5	20	2		T	T		2	1	
F87-24-09	W	TILL	3	30	14	6	6	10	27	1		T	T		3	6	
F87-24-10	NE	TILL	4	48	17	6	2	11	10			T			2	2	
F87-24-11	NE	TILL	9	40	11	6	6	10	7		T	1	T	3	3	12	4% FRANKLINITE

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F87-24-02	W	TILL	2.8	0.1	2.7	78.7	72.0	6.7	4.9	1.8
F87-24-04	W	TILL	4.5	0.3	4.2	90.1	81.0	9.1	6.7	2.4
F87-24-05	W	TILL	4.6	0.2	4.4	78.2	71.6	6.6	5.3	1.3
F87-24-07	W	TILL	2.7	0.1	2.6	52.3	48.6	3.7	3.0	0.7
F87-24-09	W	TILL	4.9	0.2	4.7	69.5	63.9	5.6	4.7	0.9
F87-24-10	NE	TILL	6.2	0.7	5.5	169.4	139.3	30.1	25.7	4.4
F87-24-11	NE	TILL	5.9	1.6	4.3	171.6	124.6	47.0	16.9	30.1

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-24-02	NO VISIBLE GOLD								
F87-24-04	NO VISIBLE GOLD								
F87-24-05	NO VISIBLE GOLD								
F87-24-07	NO VISIBLE GOLD								
F87-24-09	NO VISIBLE GOLD								EST. 0.25% PYRITE 0.25% MARCASITE 1 GRAIN NATIVE COPPER
F87-24-10	100 X 200	1						1	EST. 15% PYRITE 5% MARCASITE
F87-24-11	25 X 25		1					1	EST. 5% PYRITE 1% MARCASITE
								1	50 FINE GRAINS

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-24-01G	-1	3.0	0.4	3	-0.1	15.1	12	37.9	14	33	8	385		
F87-24-02G	-1	3.0	0.4	2	-0.1	15.7	21	79.8	16	49	9	412		
F87-24-03G	-1	3.0	0.4	2	-0.1	14.1	15	51.7	15	41	7	393		
F87-24-04G	-1	3.0	0.4	2	-0.1	15.2	12	48.3	16	39	8	389		
F87-24-05G	-1	2.0	0.4	2	-0.1	16.4	10	53.2	18	50	10	462		
F87-24-06G	-1	3.0	0.3	2	-0.1	19.1	13	60.8	21	44	9	475		
F87-24-06G	-1	3.0	0.4	2	-0.1	19.0	11	57.2	22	51	11	466		
F87-24-07G	-1	3.0	0.4	3	-0.1	17.4	14	55.6	21	38	10	439		
F87-24-08G	-1	3.0	0.4	3	-0.1	20.5	12	62.6	20	39	8	471		
F87-24-09G	-1	3.0	0.4	3	-0.1	16.7	13	50.6	19	37	9	466		
F87-24-10G	11	2.0	0.2	1	-0.1	30.4	5	37.6	43	183	10	328	8	2
F87-24-11G	5	1.0	0.2	1	-0.1	48.4	5	55.0	80	242	30	180	21	15

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-24-02H	130		58	2.8	6		91.3	45	156.0	49	791	40	1780		
F87-24-04H	88		73	3.2	7		75.6	47	145.0	58	784	44	2170		
F87-24-05H	17		87	4.2	11		82.6	57	200.0	66	838	45	5300		
F87-24-07H	28		115	6.5	14		141.8	42	335.0	96	764	42	6860		
F87-24-09H	21		95	5.9	12		90.5	54	290.0	88	821	45	8800		
F87-24-10H	150	15	85	1.2	4	-0.1	371.9	24	106.0	119	381	111	159	29	12
F87-24-11H	110	93	85	1.7	4	1.3	1973.4	26	69.1	180	325	326	547	43	93

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

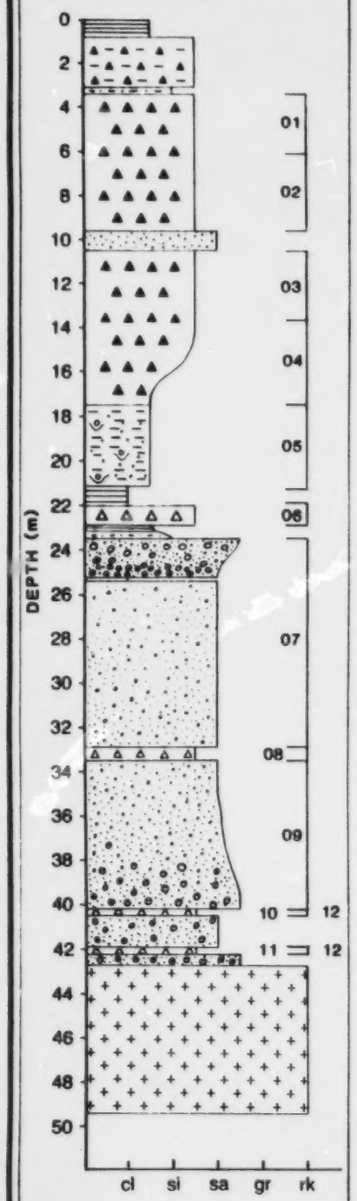
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-24-10M	-5	-7	5	0.5	4		62.4	11	53.1	88	3790	47	68	-35	-7
F87-24-11M	11	10	6	0.6	2		40.9	9	20.7	53	927	48	90	62	104

Sonic Borehole Number: F87-25

Township: Atwood **Collar Elevation: 335 m**

UTM Coordinates: 5397125 m N 386675 m E

Graphic Log:



Descriptive Log:

0.0-0.8m -dark brownish-grey silty clay to clayey silt; grit and pebble-free; appears massive; heavily weathered; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND CLAY.

0.8-3.1m -rhythmically laminated light buff-brown sandy silt with numerous grits and pebbles and dark grey clay; couplets 3-4 cms thick; clay layers 0.5 cms thick; very few pebbles in silt layers; up to 1 cm diameter carbonate clasts; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

3.1-3.4m -light buff-brown silt with a few grits; appears massive; moderately sorted; loose and sticky; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT.

3.4-17.5m -light greyish-brown sandy silt grading to dark grey clayey silt; numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded carbonates, shales, and minor lignite; numerous intraclasts of very fine sand between 6.7-9.6m; interbed of calcareous, pebbly, fine-very fine sand between 9.6-10.5m; sharp lower contact: KEEWATIN TILL.

17.5-21.3m -grey clayey silt with a few grits and pebbles; appears massive; moderately sorted; numerous inclusions of dark grey clay; calcareous; loose and rubbery; <5% clasts by volume; most pebbles <1cm diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT WITH ABUNDANT ICE-RAFTED DEBRIS.

21.3-22.0m -dark grey clay with contorted laminations of light grey silt grading to massive clay near base; numerous grits; dense and very compact (overconsolidated); calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

22.0-22.9m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive and poorly sorted; moderate-low density; loose; slightly calcareous; 15% clasts by volume; mainly subrounded-subangular felsic intrusives and mafic extrusives up to 7 cms diameter; sharp lower contact: LABRADOREAN-DERIVED DIAMICTON.

22.9-23.5m -dark brownish-grey clay and silty clay grading down to silt; grit and pebble-free; well sorted; faintly stratified; loose and soft; slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE CLAY AND SILT.

23.5-42.7m -light grey pebble gravel, gravelly fine-coarse sand, and fine-medium sand; moderately-well sorted; slightly calcareous; mainly subrounded felsic-intermediate intrusive lithologies; one lamination of dark brown clay at 25.3m; interbeds of greenish-grey diamicton similar to that between 22.0-22.9m at 32.9-33.5m, 40.2-40.5m, and 41.9-42.2m; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL INTERBEDDED WITH LABRADOREAN-DERIVED DIAMICTONS.

42.7-49.4m -dark green to black, very fine grained mafic-ultramafic flow; non-magnetic; soft; slightly talcose: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-25-01	3.4	6.1
F87-25-02	6.1	9.6
F87-25-03	10.5	13.7
F87-25-04	13.7	17.5
F87-25-05	17.5	21.3
F87-25-06	21.9	22.9
F87-25-07	23.5	32.9
F87-25-08	32.9	33.5
F87-25-09	33.5	40.2
F87-25-10	40.2	40.5
F87-25-11	41.9	42.2
F87-25-12	40.2	40.5 &
	41.9	42.2

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-25-01	W	TILL	32.0	46.5	21.5	32.7	0.39
F87-25-02	W	TILL	32.0	41.5	26.5	27.3	0.37
F87-25-03	W	TILL	34.0	46.0	20.0	26.1	0.38
F87-25-04	W	TILL	31.0	42.5	26.5	22.4	0.27
F87-25-05	W	TILL	14.0	58.5	27.5	17.7	0.75
F87-25-06	NE	TILL	55.5	40.5	4.0	3.6	0.44
F87-25-08	NE	TILL	61.0	33.0	6.0	5.2	0.93
F87-25-10	NE	TILL	71.0	26.0	3.0	3.1	0.73
F87-25-11	NE	TILL	67.0	28.5	4.5	4.2	0.58

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-25-02	W	TILL	227	2.2	2.2	20.3	1.3	0.4	0.4	55.5	17.2	0.4	0.0
F87-25-04	W	TILL	278	0.7	2.5	26.2	1.1	0.0	0.4	40.6	28.4	0.0	0.0
F87-25-06	NE	TILL	442	8.1	20.4	57.8	9.7	0.0	1.8	0.7	0.0	0.0	1.6
F87-25-07	NE	SAND	261	3.1	11.5	57.9	5.7	9.2	4.6	1.9	1.9	1.5	2.7
F87-25-08	NE	TILL	606	0.0	22.3	35.6	36.6	0.2	2.1	1.2	0.5	0.3	1.2
F87-25-09	NE	TILL	384	5.5	29.2	45.9	12.2	0.0	0.0	2.6	0.5	0.8	3.4
F87-25-12	NE	TILL	214	0.9	22.9	47.7	19.2	1.9	0.9	3.3	0.0	0.4	2.8

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-25-02	W	TILL	14	32	17	3	3	8	11	1	T	T	T		1	17	
F87-25-04	W	TILL	13	26	17	11	1	7	19	2		1	T		3	10	
F87-25-06	NE	TILL	13	36	32	8	1	6	4				T			8	
F87-25-07	NE	SAND	19	32	20	10	1	9	6			1			2	6	
F87-25-08	NE	TILL	6	41	29	9	3	8	3		T	T			1	13	
F87-25-09	NE	TILL	10	46	22	9	2	6	3	T		1	1		T	8	
F87-25-12	NE	TILL	17	35	24	5	3	9	3						4	5	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-25-02	W	TILL	5.1	0.2	4.9	79.2	71.4	7.8	5.7	2.1
F87-25-04	W	TILL	5.9	0.2	5.7	75.6	67.4	8.2	6.3	1.9
F87-25-06	NE	TILL	5.3	0.6	4.7	250.3	232.0	18.3	14.1	4.2
F87-25-07	NE	SAND	9.3	0.7	8.6	173.6	138.4	35.2	28.2	7.0
F87-25-08	NE	TILL	6.9	3.2	3.7	179.5	159.3	20.2	16.2	4.0
F87-25-08	NE	TILL	8.3	1.0	7.3	265.6	225.3	40.3	33.5	6.8
F87-25-12	NE	TILL	6.6	1.3	5.3	250.4	171.6	78.8	70.8	8.0

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-25-02	NO VISIBLE GOLD								
F87-25-04	125 X 225	1						1	EST. 20% PYRITE 15% MARCASITE
								1	
F87-25-06	NO VISIBLE GOLD								
F87-25-07	NO VISIBLE GOLD								
F87-25-08	NO VISIBLE GOLD								
F87-25-09	NO VISIBLE GOLD								
F87-25-12	75 X 100	1						1	EST. 20% PYRITE
	125 X 125		1					1	
	150 X 150		1					1	
	200 X 300	1						1	
								4	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-25-01G	-1	3.0	0.2	2	-0.1	14.0	11	42.8	14	36	8	444		
F87-25-02G	-1	2.0	0.2	3	-0.1	15.0	10	45.6	15	22	7	425		
F87-25-03G	-1	2.0	0.2	3	-0.1	12.6	10	37.3	13	16	6	425		
F87-25-04G	-1	2.0	0.2	3	-0.1	13.9	9	46.7	14	20	7	415		
F87-25-05G	-1	1.0	0.2	2	-0.1	17.0	8	47.5	20	40	10	443		
F87-25-06G	-1	1.0	-0.2	1	-0.1	12.9	2	18.0	10	53	5	420		
F87-25-08G	5	2.0	0.2	3	0.1	25.5	5	34.1	41	193	12	376	-5	2
F87-25-10G	5	1.0	0.2	1	-0.1	26.3	2	22.2	24	147	7	356	-5	-1
F87-25-11G	11	1.0	0.2	-1	-0.1	48.3	4	52.1	35	158	16	283	-5	4

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-25-02H	88		94	4.0	10		89.3	59	214.0	74	802	49	4110		
F87-25-04H	-12		83	4.3	11		86.3	59	226.0	130	816	64	7820		
F87-25-06H	21	11	22	0.4	3	0.1	90.5	14	37.6	53	589	89	56	-8	3
F87-25-07H	37	91	25	0.6	4	-0.1	120.5	18	62.8	49	376	81	73	-7	4
F87-25-08H	39	42	75	0.9	3	-0.1	130.9	17	65.3	52	351	102	81	-15	6
F87-25-09H	17	12	16	0.6	2	-0.1	110.6	14	65.6	34	375	37	73	-6	3
F87-25-12H	682	1881	38	0.7	3	0.1	309.4	21	111.8	63	352	109	41	12	7

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

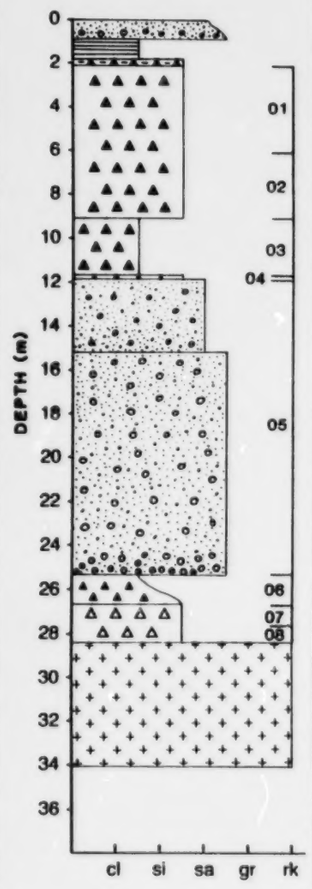
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-25-06M	-5	-8	2	-0.2	2		31.6	9	53.2	57	2400	32	72	-38	23
F87-25-07M	5	-4	3	0.2	2		27.7	10	65.5	48	2220	31	50	-19	-4
F87-25-08M	-5	-5	4	0.3	3		43.2	9	59.0	65	2540	37	35	-26	31
F87-25-09M	-5	-4	4	0.3	4		26.9	11	75.3	55	2210	30	39	-19	-4
F87-25-12M	-5	-3	3	0.3	1		33.2	9	63.5	55	2390	35	11	-15	-3

Sonic Borehole Number: F87-26

Township: Atwood **Collar Elevation: 338 m**

UTM Coordinates: 5400250 m N 383600 m E

Graphic Log:



Descriptive Log:

0.0-0.9m -light greyish-brown pebbly fine-medium sand grading to gravelly medium sand; moderately sorted; crudely bedded; mostly subrounded carbonate clasts up to 3 cms diameter; Fe-staining at base; sharp lower contact: EMERSON PHASE NEARSHORE SAND AND GRAVEL.

0.9-1.8m -mottled grey to brownish-grey silty clay and clay; grit and pebble-free; numerous carbonate concretions; rhythmically laminated; couplets 3-4 mms thick; calcareous; sharp lower contact: LOCKHART PHASE GLACIOLACUSTRINE CLAY RHYTHMITES.

1.8-2.1m -rhythmically laminated light buff, gritty and pebbly silt and dark grey clay; couplets 3-4 cms thick; clay layers up to 1 cm thick; numerous subrounded cobbles (4-5 cms diameter) at lower contact; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

2.1-9.1m -light greyish-brown grading to light grey sandy silt with numerous grits and pebbles; poorly sorted; appears massive; moderate compaction and density; calcareous; 2-3% clasts by volume; mainly subrounded carbonates, shales, and minor lignite usually <1 cm diameter; sharp lower contact: KEEWATIN TILL.

9.1-11.7m -dark grey clayey silt with numerous grits and pebbles; appears massive; poorly sorted; moderate-high density and compaction; calcareous; less gritty and pebbly than overlying unit; a few intraclasts of glaciolacustrine silt 1-2 mms diameter; 1-2% clasts by volume; mainly subrounded carbonates and shales up to 2 cms diameter; sharp lower contact: KEEWATIN TILL.

11.7-11.9m -same as from 2.1-9.1m; sharp lower contact: KEEWATIN TILL.

11.9-25.3m -greenish-grey pebbly to gravelly fine-medium sand with some sandy gravel horizons; moderately to well sorted; well stratified; slightly-non-calcareous; subrounded clasts up to 10 cms diameter; mainly felsic intrusive and mafic extrusive lithologies; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL.

25.3-26.7m -mottled dark grey and orangy-brown clayey silt grading down to sandy silt; a few grits and pebbles; appears massive; poorly sorted; very dense and compact; calcareous; <5% clasts by volume; upper 0.6m contains inclusions of very fine sand (1 cm diameter); sharp lower contact: KEEWATIN TILL.

26.7-28.4m -light greenish-grey sandy silt with numerous grits and pebbles; appears massive; poorly sorted; high density; very compact; slightly calcareous; <10% clasts by volume; mainly subrounded felsic-intermediate intrusives and mafic extrusives; few clasts >1 cm diameter; sharp lower contact: LABRADOREAN TILL.

28.4-34.1m -deeply weathered, medium-coarse crystalline biotite-hornblende tonalite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-26-01	2.1	6.1	F87-26-05	11.9	25.3
F87-26-02	6.1	9.1	F87-26-06	25.3	26.7
F87-26-03	9.1	11.7	F87-26-07	26.7	27.6
F87-26-04	11.7	11.9	F87-26-08	27.6	28.3

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-26-01	W	TILL	33.0	46.5	20.5	36.6	0.30
F87-26-02	W	TILL	38.0	40.5	21.5	35.0	0.33
F87-26-03	W	TILL	26.0	43.0	31.0	20.0	0.32
F87-26-04	W	TILL	39.0	46.0	15.0	20.2	0.47
F87-26-06	W	TILL	28.0	43.0	29.0	22.1	0.55
F87-26-07	NE	TILL	32.5	62.5	5.0	2.9	0.42
F87-26-08	NE	TILL	40.0	48.0	12.0	5.4	0.26

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-26-02	W	TILL	301	2.0	6.3	17.6	2.3	0.7	0.0	63.1	6.6	0.0	1.3
F87-26-03	W	TILL	272	0.7	4.0	14.0	2.5	0.4	1.1	39.7	36.4	1.1	0.7
F87-26-05	NE	SAND	399	4.5	22.3	61.6	5.8	0.0	2.3	0.3	0.0	0.0	3.3
F87-26-07	NE	TILL	384	1.6	25.5	57.9	11.7	0.0	1.3	0.5	0.0	0.0	1.6
F87-26-08	NE	TILL	231	1.7	3.0	90.5	1.3	0.0	0.0	0.0	0.0	0.0	3.5

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-26-02	W	TILL	15	25	22	10	2	13	11	1		T	T		1	7	
F87-26-03	W	TILL	14	21	22	8	2	4	28			T			1	5	
F87-26-05	NE	SAND	15	42	25	9	2	4	2	1		T				4	
F87-26-06	W	TILL	7	50	24	5	3	7	2			2			T	8	
F87-26-07	NE	TILL	11	51	22	6	2	6	2			T	T		T	5	
F87-26-08	NE	TILL	1	81	10	2		1				T			5	1	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-26-02	W	TILL	5.0	0.5	4.5	90.2	82.1	8.1	5.9	2.2
F87-26-03	W	TILL	5.8	0.5	5.3	54.6	47.7	6.9	5.7	1.2
F87-26-05	NE	SAND	8.7	2.0	6.7	112.1	70.8	41.3	32.4	8.9
F87-26-06	W	TILL	5.6	0.5	5.1	103.4	92.9	10.5	8.5	2.0
F87-26-07	NE	TILL	5.6	1.2	4.4	180.5	148.6	31.9	26.1	5.8
F87-26-08	NE	TILL	6.5	0.8	5.7	230.8	166.4	64.4	61.7	2.7

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-26-02	NO VISIBLE GOLD								
F87-26-03	NO VISIBLE GOLD								
F87-26-05	50 X 75	1						1	EST. 15% PYRITE
	100 X 125	1						1	2% MARCASITE
	125 X 125	1						1	
	125 X 150	1						1	
								4	
F87-26-06	NO VISIBLE GOLD								1 COARSE NATIVE COPPER GRAIN
F87-26-07	75 X 75	1						1	EST. 10% PYRITE
	100 X 125			1				1	EST. 1% MARCASITE
	100 X 175	1						1	
								3	
F87-26-08	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-26-01G	-1	1.0	0.2	3	-0.1	11.4	9	30.2	10	21	4	373		
F87-26-02G	-1	2.0	0.2	3	-0.1	11.4	8	32.8	11	26	6	383		
F87-26-03G	-1	3.0	0.3	3	-0.1	17.7	9	56.2	18	26	8	439		
F87-26-04G	-1	2.0	0.2	2	-0.1	15.3	6	37.0	14	42	6	477		
F87-26-06G	9	1.0	0.2	3	-0.1	16.3	7	38.6	13	45	7	412		
F87-26-07G	1	-1.0	-0.2	-1	-0.1	31.8	2	45.9	25	66	9	477		
F87-26-08G	4	-1.0	-0.2	2	-0.1	67.0	5	139.2	71	140	17	452		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-26-02H	19		88	3.3	8		86.0	58	242.0	60	663	43	106		
F87-26-03H	34		129	6.9	16		88.2	56	428.0	95	818	46	3100		
F87-26-05H	505	658	19	0.3	1	-0.1	107.4	17	35.0	40	309	69	57		
F87-26-06H	27		14	0.5	3		146.7	14	73.0	53	397	56	70		
F87-26-07H	390	120	18	0.3	1	0.3	122.3	12	128.0	53	353	64	51		
F87-26-08H	31	44	3	-0.2	-1	-0.1	112.9	8	188.0	101	247	32	86		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

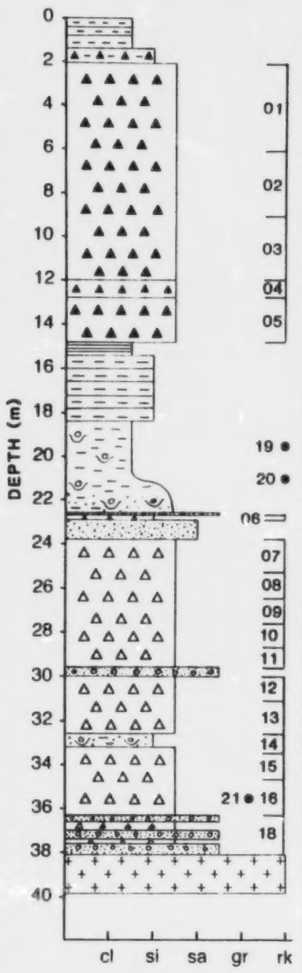
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-27

Township: Atwood **Collar Elevation:** 331 m

UTM Coordinates: 5405475 m N 377125 m E

Graphic Log:



Descriptive Log:

0.0-1.4m -mottled dark brown to light greyish-brown and brownish-grey clayey silt and silt; grit and pebble-free; deeply weathered; faintly laminated; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT.

1.4-2.1m -rhythmically laminated light buff-brown silt with numerous grits and pebbles and dark grey clay; couplets grade from 6 to 3.5 cms thick; silt layers appear massive to faintly stratified and sorted; clay layers up to 1 cm thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

2.1-14.8m -light brown grading to grey silty very fine sand to sandy silt with numerous grits and pebbles; slightly sandier from 12.0-12.8m; poorly sorted; appears massive; moderate density and compaction; calcareous; inclusions of very fine sand near base of unit; <5% clasts by volume; mainly subrounded carbonates and shales up to 4-5 cms diameter; some minor lignite; sharp lower contact: KEEWATIN TILL.

14.8-15.4m -rhythmically laminated dark grey clay and light grey silt; grit and pebble-free; couplets 1-3 cms thick; silt laminae 2-10 mms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

15.4-22.6m -well laminated silty clay, clayey silt, and silt with a few grits and pebbles grading to gritty sandy silt; mainly carbonate pebbles up to 2-3 cms diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SILT.

22.6-22.7m -GRANITIC COBBLE.

22.7-32.6m -light grey silty very fine sand and sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density; loosely compact; non-calcareous; 5-10% clasts by volume; up to 10 cms diameter; mainly subangular-subrounded felsic-intermediate intrusives and mafic-intermediate extrusives; interbed of fine to very fine sand between 22.9-23.8m and of sandy gravel between 29.6-30.0m; sharp lower contact: LABRADOREAN TILL.

32.6-33.2m -grey sandy silt with numerous grits and pebbles; some silty clay and clayey silt laminae present; slightly calcareous; loose; <5% clasts by volume; mainly subrounded felsic-intermediate intrusives and mafic-intermediate extrusives; sharp lower contact: LABRADOREAN-DERIVED WATERLAIN DIAMICTON.

33.2-36.3m -same as from 22.7-32.6m; crudely bedded between 35.5-36.3m; sharp lower contact: LABRADOREAN TILL.

36.3-38.1m -dark greenish-grey fine-very fine sand and sandy gravel with layers of gritty, pebbly silty very fine sand; crudely bedded; moderate sorting; slightly calcareous; clasts up to 8 cms diameter; mainly subrounded felsic-intermediate intrusives and extrusives; sharp lower contact: LABRADOREAN-DERIVED DEBRIS FLOWS INTERBEDDED WITH GLACIOFLUVIAL SAND AND GRAVEL.

38.1-39.9m -dark green, medium grained mafic volcanic-gabbro; biotite-bearing; minor quartz: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-27-01	2.1	6.1
F87-27-02	6.1	9.1
F87-27-03	9.1	12.0
F87-27-04	12.0	12.8
F87-27-05	12.8	14.8
F87-27-06	22.7	22.9
F87-27-07	23.8	25.3
F87-27-08	25.3	26.5
F87-27-09	26.5	27.6
F87-27-10	27.6	28.7
F87-27-11	28.7	29.6
F87-27-12	30.0	31.1
F87-27-13	31.1	32.6
F87-27-14	32.6	33.5
F87-27-15	33.5	34.7
F87-27-16	34.7	36.3
F87-27-18	36.3	38.1
F87-27-19	19.5	
F87-27-20	21.0	
F87-27-21	35.5	

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-27-01	W	TILL	39.5	45.0	15.5	41.8	0.36
F87-27-02	W	TILL	42.0	39.0	19.0	39.4	0.54
F87-27-03	W	TILL	37.5	42.0	20.5	37.6	0.64
F87-27-04	W	TILL	46.5	41.5	12.0	34.3	0.73
F87-27-05	W	TILL	33.0	44.0	23.0	36.2	0.49
F87-27-06	NE	TILL	62.5	35.5	2.0	4.3	1.13
F87-27-07	NE	TILL	32.5	62.5	5.0	3.5	0.39
F87-27-08	NE	TILL	41.0	53.0	6.0	2.9	0.27
F87-27-09	NE	TILL	38.5	55.0	6.5	3.9	0.43
F87-27-10	NE	TILL	33.5	61.0	5.5	2.8	0.36
F87-27-11	NE	TILL	69.0	29.5	1.5	4.3	0.54
F87-27-12	NE	TILL	34.5	60.5	5.0	3.5	0.61
F87-27-13	NE	TILL	65.0	32.5	2.5	4.0	0.49
F87-27-14	NE	TILL	35.0	53.0	12.0	3.7	0.55
F87-27-15	NE	TILL	61.0	34.0	5.0	5.6	0.66
F87-27-16	NE	TILL	47.0	44.0	9.0	3.4	0.76
F87-27-19	W	TILL	19.0	46.0	35.0	19.9	1.05
F87-27-20	W	TILL	31.0	41.0	28.0	16.4	0.93
F87-27-21	NE	TILL	51.0	33.0	16.0	5.9	0.80

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-27-02	W	TILL	301	0.3	2.3	23.9	1.7	0.0	0.0	69.1	1.0	0.0	1.7
F87-27-07	NE	TILL	513	2.1	19.3	69.4	6.6	0.0	1.0	0.2	0.0	0.0	1.4
F87-27-08	NE	TILL	343	0.0	25.9	63.5	4.7	0.3	2.0	2.3	0.0	0.0	1.2
F87-27-09	NE	TILL	450	5.3	24.9	57.8	6.7	0.4	0.6	0.9	0.0	0.2	3.1
F87-27-10	NE	TILL	399	5.5	27.3	57.7	6.8	0.0	1.6	1.3	0.0	0.0	0.0
F87-27-11	NE	TILL	415	8.9	21.0	58.1	9.4	0.0	0.7	0.2	0.0	0.0	1.7
F87-27-12	NE	TILL	438	6.8	19.2	64.4	5.7	0.0	2.0	0.7	0.0	0.0	1.1
F87-27-13	NE	TILL	431	5.3	25.3	54.6	12.5	0.0	1.2	0.9	0.0	0.0	0.2
F87-27-14	NE	TILL	305	0.7	19.7	61.4	15.1	0.7	0.0	1.3	0.0	0.0	1.3
F87-27-15	NE	TILL	176	6.8	23.9	54.6	11.9	0.0	0.0	2.3	0.0	0.0	0.4
F87-27-16	NE	TILL	385	1.0	33.8	51.7	7.5	0.0	0.0	2.9	0.3	0.3	2.6
F87-27-18	NE	TILL	361	8.9	24.4	42.4	11.3	0.0	6.9	2.5	0.3	0.0	3.3

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-27-02	W	TILL	20	28	16	11	2	12	8	1		2	T		T	6	
F87-27-07	NE	TILL	16	30	30	11	3	8	T	1		1	T			8	
F87-27-08	NE	TILL	20	32	34	4	1	6	3	T		T	T		T	1	
F87-27-09	NE	TILL	26	25	30	11	1	3	2	1		T	1			2	
F87-27-10	NE	TILL	17	33	30	8	1	7	3	T		1	T		T	6	
F87-27-11	NE	TILL	20	29	24	9	4	9	4	1	T	T	T			7	
F87-27-12	NE	TILL	19	29	33	8	T	8	1	T		2			T	4	
F87-27-13	NE	TILL	23	27	29	9	4	7	1	T	T	T	T			9	
F87-27-14	NE	TILL	20	30	32	7	1	8	1	1		T	T			6	
F87-27-15	NE	TILL	25	33	14	10	5	8	3		1	1				6	
F87-27-16	NE	TILL	19	49	24	2	1	3	T			1			1	4	
F87-27-18	NE	TILL	12	22	17	12	4	8	4						21	5	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-27-02	W	TILL	4.8	4.0	0.8	47.5	38.3	9.2	6.2	3.0
F87-27-07	NE	TILL	10.1	0.7	9.4	178.2	147.8	30.4	19.9	10.5
F87-27-08	NE	TILL	7.9	0.5	7.4	187.7	162.2	25.5	17.3	8.2
F87-27-09	NE	TILL	8.1	0.6	7.5	134.4	103.9	30.5	22.5	8.0
F87-27-10	NE	TILL	8.1	0.9	7.2	206.0	174.1	31.9	23.1	8.8
F87-27-11	NE	TILL	10.0	0.5	9.5	216.9	159.7	57.2	41.3	15.9
F87-27-12	NE	TILL	5.9	0.7	5.2	159.5	136.5	23.0	15.9	7.1
F87-27-13	NE	TILL	9.5	0.6	8.9	315.7	267.5	48.2	35.6	12.6
F87-27-14	NE	TILL	7.6	0.9	6.7	195.4	170.1	25.3	17.1	8.2
F87-27-15	NE	TILL	9.0	0.4	8.6	211.1	173.1	38.0	26.0	12.0
F87-27-16	NE	TILL	9.7	1.3	8.4	235.5	197.5	38.0	29.7	8.3
F87-27-18	NE	TILL	8.1	1.5	6.6	208.6	138.3	70.3	62.5	7.8

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-27-02	NO VISIBLE GOLD								
F87-27-07	25 X 25		1					1	EST. 2% PYRITE
	50 X 75		1					1	
	100 X 125					1		1	
								3	
F87-27-08	50 X 75		1					1	EST. 1% PYRITE
	75 X 100							0	
								1	
F87-27-09	75 X 75			1				1	EST. 1% PYRITE
	75 X 125			1				1	
								2	
F87-27-10	NO VISIBLE GOLD								
F87-27-11	50 X 75					1		1	EST. 3% PYRITE
	50 X 100	1						1	1 GRAIN NATIVE COPPER
	75 X 75	1						1	
	100 X 100	1						1	
								4	
F87-27-12	50 X 75	1						1	EST. 1% PYRITE
	75 X 100	1						1	
								2	
F87-27-13	25 X 50	1						1	EST. 2% PYRITE
	50 X 75		1					1	
	100 X 150	1						1	
								3	
F87-27-14	50 X 50	1	1					2	EST. 1% PYRITE
								2	
F87-27-15	25 X 25		1					1	EST. 1% PYRITE
	75 X 75		1					1	
	75 X 100	1						1	
	75 X 125		1					1	
	150 X 200	1						1	
								5	
F87-27-16	75 X 175			1				1	EST. 1% PYRITE
	100 X 100	1						1	
								2	
F87-27-18	25 X 25		1					1	EST. 2% PYRITE
	25 X 50					1		1	
	50 X 50		1			1		2	
	50 X 75		3					3	
	125 X 125	1		1				2	
	150 X 150	1						1	
	200 X 300		1					1	
								11	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-27-01G	1	2.5	0.3	2	-0.1	14.0	7	31.8	13	70	4	424		
F87-27-02G	-1	2.5	0.2	2	-0.1	14.0	7	31.9	13	42	4	348		
F87-27-03G	-1	3.0	0.3	2	-0.1	16.0	8	37.6	15	86	5	364		
F87-27-04G	-1	2.5	0.3	2	-0.1	13.0	7	28.6	12	56	4	392		
F87-27-05G	-1	3.0	0.3	2	-0.1	16.0	8	40.0	16	106	5	408		
F87-27-06G	-1	1.0	0.2	-1	0.1	10.0	2	12.9	8	86	4	418		
F87-27-07G	-1	1.0	0.2	-1	-0.1	10.0	-2	15.9	9	74	3	436		
F87-27-08G	-1	1.0	0.2	-1	-0.1	15.0	3	23.0	13	96	5	446		
F87-27-09G	-1	1.0	0.2	-1	-0.1	18.0	3	27.7	17	94	7	458		
F87-27-10G	-1	1.0	0.2	-1	-0.1	14.0	3	21.4	13	90	6	426		
F87-27-11G	10	1.0	0.2	-1	-0.1	8.0	2	11.6	8	76	3	384		
F87-27-12G	-1	1.0	0.2	-1	-0.1	14.0	3	17.0	13	88	5	432		
F87-27-13G	-1	1.0	0.2	-1	-0.1	14.0	-2	21.7	14	80	6	404		
F87-27-14G	-1	1.0	0.2	-1	0.1	25.0	4	39.2	21	206	8	452		
F87-27-15G	4	1.0	0.2	-1	0.1	17.0	4	24.7	14	70	6	436		
F87-27-16G	12	1.0	0.3	-1	0.1	22.0	3	31.2	18	90	7	448		
F87-27-18G	-1	1.0	0.2	-1	0.1	32.0	5	37.0	32	146	11	508		
F87-27-18G	10	1.0	0.2	-1	-0.1	32.0	4	43.2	32	142	11	444		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-27-02H	100		61	2.0	5		104.9	50	34.0	69	691	48	714		
F87-27-07H	130	14	11	0.3	-1	-0.1	32.8	19	24.0	19	391	36	54		
F87-27-08H	68	197	11	0.4	1	-0.1	38.2	18	24.0	17	400	33	44		
F87-27-09H	200	84	11	0.5	-1	0.1	45.0	13	24.0	17	378	30	688		
F87-27-10H	21	11	13	0.3	-1	-0.1	58.1	12	22.0	17	378	39	167		
F87-27-11H	120	90	13	0.5	-1	0.2	60.6	14	97.0	18	409	35	53		
F87-27-12H	140	143	11	0.4	-1	0.4	59.1	12	24.0	18	385	37	46		
F87-27-13H	240	410	12	0.4	-1	0.1	49.5	11	239.0	16	380	35	78		
F87-27-14H	130	63	14	0.3	11	0.3	82.4	13	26.0	83	499	51	131		
F87-27-15H	390	858	16	0.5	-1	0.1	43.6	14	130.0	22	412	46	44		
F87-27-16H	290	23	15	0.4	1	-0.1	61.3	14	41.0	39	340	45	75		
F87-27-18H	370	1360	17	0.4	3	-0.1	81.9	13	78.0	60	202	56	96		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

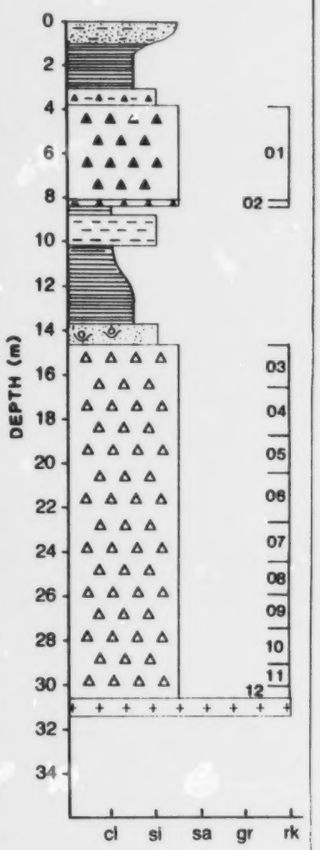
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-28

Township: Atwood **Collar Elevation: 335 m**

UTM Coordinates: 5407550 m N 380950 m E

Graphic Log:



Descriptive Log:

0.0-3.1m -light buff-brown and orangy-brown grading to dark grey silty clay to very fine sand; grit and pebble-free to slightly gritty near base; well sorted; rhythmically laminated; couplets 0.5-1.0 cm thick; calcareous; some carbonate concretions present; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SAND, SILT, AND CLAY.

3.1-3.8m -rhythmically laminated light buff-grey gritty and pebbly silt and dark grey clay; couplets 3-5 cms thick; clay laminae 1 cm thick; silt layers massive; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

3.8-8.1m -light grey sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; 2-3% clasts by volume; mainly subrounded carbonate clasts up to 2 cms diameter; sharp lower contact: KEEWATIN TILL.

8.1-8.4m - same as above; denser and more compact; slightly grittier than overlying till; sharp lower contact: KEEWATIN TILL.

8.4-8.8m -grey clay and light grey silt; predominantly clay; rhythmically laminated to massive; grit and pebble-free; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

8.8-10.2m -light grey silt and dark grey clay; grit and pebble-free; predominantly silt; slightly laminated; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT.

10.2-13.7m -dark grey clay grading to rhythmically laminated grey silt and greyish-brown clay; upper clay appears massive; grit and pebble-free; plasticity; couplets 4-5 cms thick; silt layers 5 mms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

13.7-14.6m -light grey silty very fine sand with numerous grits and pebbles and pods of dark grey clay; very soupy and liquified; slightly calcareous; probably a mix of glaciolacustrine clay and underlying till; drill induced mixing; sharp lower contact: LABRADOREAN-DERIVED GLACIO-LACUSTRINE SAND.

14.6-30.6m -light grey silty very fine sand to sandy silt with numerous grits and pebbles; poorly sorted; appears massive; low grading to moderate-high density and compaction; some inclusions of greyish-brown silty clay and clay up to 2 cms diameter in upper 4.2m; 5% clasts by volume; mainly subrounded-subangular felsic-intermediate intrusives and mafic extrusives up to 8-9 cms diameter; some pebbles striated and faceted near base of unit; sharp lower contact: LABRADOREAN TILL.

30.6-31.4m -fine-medium grained gabbro/mafic flow; cemented by chloritic clay: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-28-01	3.8	8.1	F87-28-07	22.6	24.4
F87-28-02	8.1	8.4	F87-28-08	24.4	25.9
F87-28-03	14.6	16.5	F87-28-09	25.9	27.4
F87-28-04	16.5	18.7	F87-28-10	27.4	29.0
F87-28-05	18.7	20.4	F87-28-11	29.0	30.0
F87-28-06	20.4	22.6	F87-28-12	30.0	30.6

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-28-01	W	TILL	38.0	42.5	19.5	40.4	0.40
F87-28-02	W	TILL	37.0	41.0	22.0	36.8	0.49
F87-28-03	NE	TILL	62.0	29.5	8.5	5.3	0.38
F87-28-04	NE	TILL	29.5	63.5	7.0	3.6	0.58
F87-28-05	NE	TILL	32.0	60.5	7.5	7.8	0.29
F87-28-06	NE	TILL	60.0	35.0	5.0	3.8	0.69
F87-28-07	NE	TILL	29.5	67.0	3.5	3.0	0.14
F87-28-08	NE	TILL	59.5	35.5	5.0	4.7	0.47
F87-28-09	NE	TILL	35.0	61.5	3.5	3.5	0.54
F87-28-10	NE	TILL	66.0	31.5	2.5	4.7	0.77
F87-28-11	NE	TILL	40.0	57.0	3.0	3.0	0.48
F87-28-12	NE	TILL	60.5	33.5	6.0	5.2	0.76

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-28-03	NE	TILL	324	5.9	35.5	41.4	10.8	1.5	1.5	2.2	0.0	0.0	1.2
F87-28-04	NE	TILL	335	3.0	24.8	57.9	11.0	0.0	0.9	1.8	0.0	0.0	0.6
F87-28-05	NE	TILL	506	2.8	18.4	62.2	11.7	0.0	0.8	2.6	0.0	0.0	1.6
F87-28-06	NE	TILL	349	3.4	25.2	58.8	10.3	0.0	0.6	0.6	0.0	0.0	1.1
F87-28-07	NE	TILL	424	6.8	23.3	57.8	8.0	0.0	2.6	0.7	0.4	0.0	0.2
F87-28-08	NE	TILL	315	30.5	14.3	50.5	2.2	0.0	1.0	0.3	0.0	0.6	0.6
F87-28-09	NE	TILL	327	1.2	28.1	63.3	4.9	0.3	0.0	0.6	0.0	0.3	1.2
F87-28-10	NE	TILL	402	5.0	19.2	63.2	9.2	1.2	1.2	0.2	0.2	0.0	0.5
F87-28-11	NE	TILL	374	10.2	20.6	53.2	7.8	0.3	3.7	1.1	0.0	0.3	2.9
F87-28-12	NE	TILL	331	14.2	12.4	62.5	9.1	0.0	0.9	0.0	0.0	0.0	0.9

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-28-03	NE	TILL	23	27	19	18	4	7	T	1			1			5	
F87-28-04	NE	TILL	19	36	26	7	1	7	4			T			T	11	
F87-28-05	NE	TILL	19	41	21	5	1	5	5	1		2				7	
F87-28-06	NE	TILL	20	32	20	14	5	3	2	2		1	T			6	
F87-28-07	NE	TILL	18	46	18	7	T	6	4			1	T			4	
F87-28-08	NE	TILL	19	31	19	15	6	4	3	T	T	1	T		2	6	
F87-28-09	NE	TILL	14	42	21	8	3	6	4	1		1				9	
F87-28-10	NE	TILL	21	26	18	8	8	9	6	1	1	T	2			4	
F87-28-11	NE	TILL	18	30	30	4	1	8	2			T	1			2	
F87-28-12	NE	TILL	25	24	22	14	5	6	T	T	T	3	1			5	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-28-03	NE	TILL	8.2	0.8	7.4	379.7	332.2	47.5	32.9	14.6
F87-28-04	NE	TILL	9.5	0.5	9.0	196.2	172.1	24.1	15.8	8.3
F87-28-05	NE	TILL	9.2	0.7	8.5	200.0	167.0	33.0	22.8	10.2
F87-28-06	NE	TILL	9.3	0.5	8.8	341.9	299.7	42.2	29.8	12.4
F87-28-07	NE	TILL	9.6	1.1	8.5	237.8	194.3	43.5	29.9	13.6
F87-28-08	NE	TILL	8.8	0.7	8.1	232.4	199.6	32.8	22.5	10.3
F87-28-09	NE	TILL	8.6	1.1	7.5	166.8	134.7	32.1	21.3	10.8
F87-28-10	NE	TILL	8.9	0.4	8.5	180.8	139.7	41.1	27.5	13.6
F87-28-11	NE	TILL	6.9	0.7	6.2	157.1	128.0	29.1	20.1	9.0
F87-28-12	NE	TILL	7.4	0.8	6.6	259.5	232.7	26.8	17.5	9.3

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-28-03	25 X 25				1			1	EST. 1% PYRITE
	25 X 50		1					1	
	50 X 50		1					1	
	50 X 75		1					1	
	75 X 150	1						1	
	100 X 125		1	1				2	
								7	
F87-28-04	NO VISIBLE GOLD								
F87-28-05	25 X 25	1	1					2	EST. 1% PYRITE
	25 X 50	1						1	
	50 X 50	1						1	
	50 X 100	1						1	
	75 X 75	1	1					2	
								7	
F87-28-06	25 X 50		2					2	EST. 1% PYRITE
	25 X 75		1					1	
	50 X 50	1	2					3	
	50 X 75		1					1	
	75 X 100	1						1	
	75 X 150			1				1	
								9	
F87-28-07	25 X 25		1					1	EST. 1% PYRITE
	50 X 50	1						1	
	75 X 75		1					1	
								3	
F87-28-08	25 X 50		1					1	EST. 1% PYRITE
	50 X 75		3					3	
	50 X 100		1					1	
	75 X 125		1	1				2	
	125 X 200	1						1	
								8	
F87-28-09	25 X 50	1						1	EST. 1% PYRITE
	25 X 75			1				1	
	25 X 100	1						1	
	50 X 50	1						1	
	75 X 125			1				1	
								5	
F87-28-10	50 X 75	1		1				2	EST. 1% PYRITE
								2	
F87-28-11	NO VISIBLE GOLD								
F87-28-12	50 X 50	1						1	EST. 1% PYRITE
	50 X 75	2						2	
								3	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-28-01G	-1	2.5	0.2	2	0.1	15.0	6	35.4	17	72	5	418		
F87-28-02G	-1	2.0	0.2	3	-0.1	16.0	7	41.8	17	58	6	440		
F87-28-03G	-1	1.0	0.2	-1	-0.1	18.0	4	27.5	16	98	6	476		
F87-28-04G	2	1.0	0.2	-1	-0.1	12.0	2	18.4	12	92	5	466		
F87-28-05G	3	1.0	0.2	-1	-0.1	19.0	3	28.4	19	136	7	418		
F87-28-06G	2	1.0	0.2	-1	0.1	17.0	2	21.8	17	88	6	386		
F87-28-07G	1	1.0	0.2	-1	-0.1	16.0	3	21.3	16	114	6	440		
F87-28-08G	3	1.0	0.2	-1	-0.1	17.0	3	20.5	17	90	6	442		
F87-28-09G	2	1.0	0.2	-1	0.1	15.0	2	17.4	13	70	5	390		
F87-28-10G	2	1.0	0.2	-1	-0.1	11.0	-2	14.5	11	116	4	422		
F87-28-11G	3	1.0	0.2	-1	-0.1	12.0	-2	18.3	13	72	4	406		
F87-28-12G	2	1.0	0.2	-1	0.1	20.0	3	28.6	20	118	8	438		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-28-03H	380	105	26	0.4	-1	0.1	63.3	17	35.0	27	315	59	70		
F87-28-04H	74	65	20	0.5	1	0.1	62.8	19	32.0	28	367	54	70		
F87-28-05H	180	210	20	0.7	-1	-0.1	72.5	14	27.0	24	376	50	123		
F87-28-06H	280	537	13	0.5	-1	-0.1	55.8	9	28.0	21	34[illegible]	42	40		
F87-28-07H	220	103	16	0.4	-1	-0.1	60.6	14	20.0	23	356	50	38		
F87-28-08H	310	666	14	0.4	-1	-0.1	66.7	13	32.0	21	401	48	120		
F87-28-09H	120	80	18	0.3	1	-0.1	78.1	13	29.0	22	360	51	24		
F87-28-10H	98	67	13	0.2	-1	-0.1	56.3	12	24.0	22	357	43	5		
F87-28-11H	70	8	11	0.3	1	-0.1	62.6	10	25.0	23	353	48	48		
F87-28-12H	180	97	16	0.4	-1	-0.1	59.7	15	275.0	22	388	56	5		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

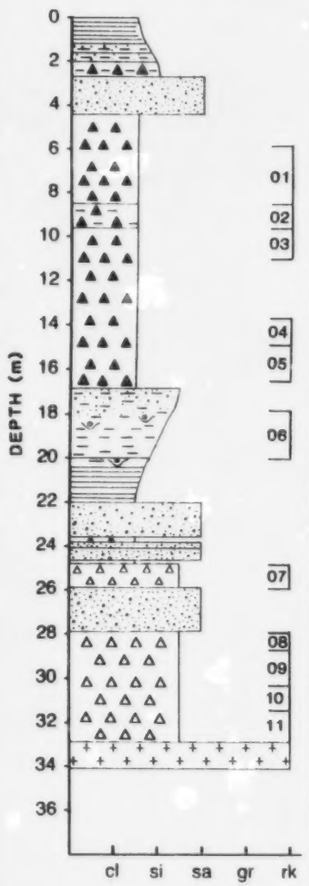
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-29

Township: Atwood **Collar Elevation:** 329 m

UTM Coordinates: 5400975 m N 379250 m E

Graphic Log:



Descriptive Log:

0.0-2.0m -rhythmically laminated light buff silt and dark greyish-brown silt grading to slightly gritty silt; couplets 3-4 mms thick; silt laminae 1 mm thick; some carbonate concretions present; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND CLAY.

2.0-2.7m -rhythmically laminated light buff gritty and pebbly silt and dark grey clay; couplets up to 3 cms thick; clay layers 0.5-1.0 cms thick; silt layers 0.1-3.0 cms thick; dry and compact; calcareous; carbonate clasts up to 4 cms diameter; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

2.7-4.4m -light yellowish-brown fine-very fine sand with some silt; well sorted; appears massive; grit and pebble-free; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SAND.

4.4-8.5m -mottled light yellowish-brown to medium grey clayey silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; 5% clasts by volume; mainly subrounded carbonates and shales with minor lignite; numerous weathered crystalline pebbles; sharp lower contact: KEEWATIN TILL.

8.5-9.6m -same as from 4.4-8.5m; some laminations of light buff-grey, gritty silt and light grey clay; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOW.

9.6-16.8m -same as from 4.4-8.5m except slightly sandier; appears massive except for a few light grey silt laminae in lower 0.3m; overconsolidated in places; calcareous; 1-10% clasts by volume; sharp lower contact: KEEWATIN TILL.

16.8-22.0m -grey silty very fine sand grading to silty clay; some gritty and pebbly layers; crudely bedded to massive; moderate-poor sorting; inclusions of glaciolacustrine silt and clay in sandy horizons; lower 1.2m massive and grit and pebble-free; calcareous; sharp lower contact: KEEWATIN-DERIVED DIAMICTONS INTERBEDDED WITH GLACIOLACUSTRINE SAND, SILT, AND CLAY.

22.0-24.8m -light grey fine-coarse sand with interbeds of dark brownish-grey, gritty, pebbly silty clay and grit-free, clayey silt and silty clay; moderate sorting; crudely bedded; calcareous; one subrounded cobble 8 cms diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOFLUVIAL SAND INTERBEDDED WITH DEBRIS FLOWS.

24.8-25.9m -light grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; loose; slightly calcareous; 5% clasts by volume; mainly subangular felsic-intermediate intrusives and mafic extrusives up to 4-5 cms diameter; sharp lower contact: LABRADOREAN TILL.

25.9-27.9m -grey pebbly, medium-coarse sand, fine-very fine sand, and gritty, pebbly silty very fine sand; moderate sorting; crude bedding; slightly calcareous; clasts up to 8 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND INTERBEDDED WITH DIAMICTONS.

27.9-32.9m -same as from 24.8-25.9m; grading to sandy silt downwards; 5-10% clasts by volume; mainly subangular-subrounded felsic-intermediate intrusives and mafic-intermediate extrusives up to 6 cms diameter; sharp lower contact: LABRADOREAN TILL.

32.9-34.1m -medium grained, biotite, hornblende gabbro: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-29-01	5.8	8.5	F87-29-07	24.8	25.9
F87-29-02	8.5	9.6	F87-29-08	27.9	28.7
F87-29-03	9.6	11.0	F87-29-09	28.7	30.3
F87-29-04	13.7	14.9	F87-29-10	30.3	31.4
F87-29-05	14.9	16.5	F87-29-11	31.4	32.9
F87-29-06	17.8	20.0			

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-29-01	W	TILL	19.0	49.0	32.0	23.4	0.48
F87-29-02	W	TILL	22.0	46.0	32.0	24.4	0.43
F87-29-03	W	TILL	24.0	39.0	37.0	19.4	0.32
F87-29-04	W	TILL	27.5	58.5	14.0	23.2	0.42
F87-29-05	W	TILL	22.0	50.5	27.5	27.8	0.76
F87-29-06	W	TILL	53.5	32.0	14.5	25.3	0.51
F87-29-07	NE	TILL	60.5	35.5	4.0	4.2	0.58
F87-29-08	NE	TILL	66.0	31.0	3.0	7.1	0.37
F87-29-09	NE	TILL	37.5	59.5	3.0	4.7	0.33
F87-29-10	NE	TILL	26.0	69.0	5.0	5.5	0.38
F87-29-11	NE	TILL	26.0	67.5	6.5	4.5	0.40

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-29-03	W	TILL	235	1.3	3.0	18.8	0.9	0.0	0.4	50.6	24.2	0.0	0.9
F87-29-04	W	TILL	316	1.9	14.9	68.0	5.4	0.0	3.2	4.7	0.3	0.0	1.7
F87-29-07	NE	TILL	296	4.1	21.3	57.1	9.5	1.0	4.7	0.0	0.0	0.3	2.0
F87-29-08	NE	TILL	209	5.3	28.2	35.4	20.1	0.5	8.1	0.5	0.0	1.0	1.0
F87-29-09	NE	TILL	357	3.4	34.7	47.6	10.4	0.0	1.4	0.3	0.0	1.4	0.8
F87-29-10	NE	TILL	397	7.8	22.2	52.6	11.6	0.5	0.8	1.3	0.3	0.8	2.3
F87-29-11	NE	TILL	433	2.3	23.1	51.5	19.7	0.0	0.5	1.4	0.2	0.2	1.4

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-29-03	W	TILL	8	17	15	9	1	3	43			1	1		2	2	
F87-29-04	W	TILL	11	40	34	3	2	5	3	T		T	T		2	8	
F87-29-07	NE	TILL	14	36	25	5	6	6	3		T	1			4	3	
F87-29-08	NE	TILL	21	23	21	7	7	15	4	T	T	1	T		1	4	
F87-29-09	NE	TILL	9	43	37	6	1	3	1			T	T		T	8	
F87-29-10	NE	TILL	15	40	33	4	1	5	T			2			T	3	
F87-29-11	NE	TILL	8	39	41	7	T	5	T	T		T			T	3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-29-03	W	TILL	7.6	0.3	7.3	60.4	50.7	9.7	8.3	1.4
F87-29-04	W	TILL	8.4	1.0	7.4	165.2	149.2	16.0	11.6	4.4
F87-29-07	NE	TILL	8.0	1.0	7.0	282.4	241.6	40.8	31.2	9.6
F87-29-08	NE	TILL	8.6	0.7	7.9	226.6	179.7	46.9	35.1	11.8
F87-29-09	NE	TILL	8.5	0.8	7.7	237.3	178.2	59.1	44.8	14.3
F87-29-10	NE	TILL	6.8	0.9	5.9	222.3	174.6	47.7	38.3	9.4
F87-29-11	NE	TILL	7.0	1.5	5.5	278.0	238.6	39.4	31.9	7.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-29-03	NO VISIBLE GOLD								
F87-29-04	NO VISIBLE GOLD								2 FINE NATIVE COPPER GRAINS
F87-29-07	50 X 75				1			1	EST. 3% PYRITE
	75 X 75	1						1	
	75 X 125			1				1	
								3	
F87-29-08	25 X 50		1					1	EST. 1% PYRITE
	50 X 50				1			1	
	50 X 75	1						1	
	50 X 100			1				1	
	200 X 275			1				1	
								5	
F87-29-09	25 X 25	1	1					2	EST. 1% PYRITE
	25 X 50	2						2	
	50 X 50	1						1	
	100 X 100	1						1	
								6	
F87-29-10	25 X 50		1					1	EST. 1% PYRITE
	50 X 75	1						1	
	75 X 125	1						1	
								3	
F87-29-11	25 X 25		1					1	EST. 1% PYRITE
	25 X 50	2	1					3	
	50 X 50		2					2	
	50 X 75	2	2					4	
								10	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-29-01G	1	7.0	0.2	2	0.1	22.0	9	63.3	23	64	8	468		
F87-29-02G	2	7.0	0.3	3	0.2	21.0	11	63.7	24	64	8	578		
F87-29-03G	2	7.0	0.5	5	-0.1	25.7	14	83.3	26	76	10	474		
F87-29-04G	4	2.0	0.2	3	-0.1	15.9	7	27.7	13	89	5	416		
F87-29-05G	2	2.5	0.3	2	-0.1	16.9	9	38.9	17	58	6	394		
F87-29-06G	2	2.5	0.2	3	-0.1	16.1	9	30.2	15	63	6	448		
F87-29-07G	5	1.0	0.2	-1	-0.1	22.7	3	23.9	21	72	6	458		
F87-29-08G	4	-1.0	0.2	-1	-0.1	22.7	4	22.1	17	134	6	374		
F87-29-09G	2	-1.0	0.2	-1	-0.1	23.3	4	19.7	18	136	6	390		
F87-29-10G	10	1.0	0.3	1	-0.1	32.0	4	34.2	44	204	9	432		
F87-29-11G	3	1.0	0.2	3	-0.1	32.3	3	34.5	56	246	10	404		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-29-03H	170		135	7.8	23		136.2	58	941.0	109	772	36	7030		
F87-29-04H	230		20	0.7	3		130.7	23	59.0	42	379	71	93		
F87-29-07H	64	90	20	0.4	1	-0.1	83.1	16	41.0	37	369	60	90		
F87-29-08H	340	43	10	0.5	1	0.1	70.5	12	26.0	19	431	27	21		
F87-29-09H	160	67	9	0.6	1	-0.1	69.1	13	27.0	17	420	25	98		
F87-29-10H	120	139	7	0.5	-1	-0.1	84.7	13	61.0	27	385	28	51		
F87-29-11H	140	133	9	0.4	3	0.6	92.1	11	44.0	65	398	35	119		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

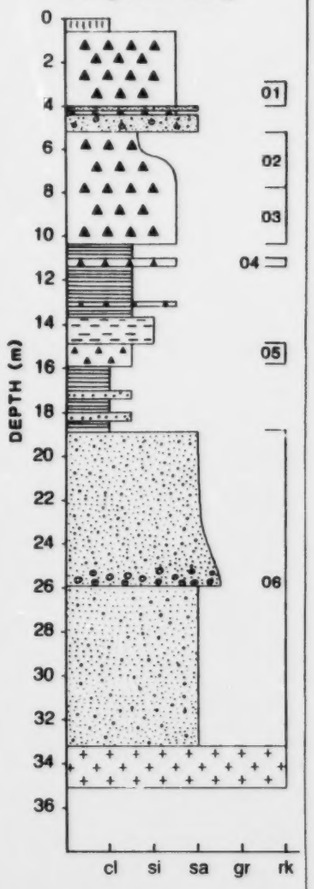
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-30

Township: Blue **Collar Elevation: 342 m**

UTM Coordinates: 5400100 m N 391650 m E

Graphic Log:



Descriptive Log:

0.0-0.6m -FILL AND TOPSOIL.

0.6-4.0m -mottled light, orangy-brown, greyish-brown, and buff-grey sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; <5% clasts by volume; mainly subrounded carbonates and shales up to 2 cms diameter; some weathered crystalline clasts; sharp lower contact: KEEWATIN TILL.

4.0-5.2m -light buff-brown fine sand with armoured balls of silt till and one bed of gritty and pebbly sandy silt till at 4.3m; crudely bedded; moderate sorting; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOFLUVIAL SAND INTERBEDDED WITH DEBRIS FLOWS.

5.2-10.4m -light grey clayey silt grading to sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded carbonate clasts up to 2 cms diameter; sharp lower contact: KEEWATIN TILL.

10.4-13.7m -dark grey clay and silty clay, light grey clayey silt and silt, and olive-grey sandy silt with a few grits and pebbles; moderate-poor sorting; crudely bedded; silt and clay layers are grit and pebble-free; gritty, sandy silt layers are massive; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERBEDDED WITH GLACIOLACUSTRINE SILT AND CLAY.

13.7-14.9m -light greenish-grey sandy silt and minor dark grey clay; well laminated; grit and pebble-free; silt laminae non-calcareous; clay laminae slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT.

14.9-18.9m -dark grey clay, gritty and pebbly silty clay, and light buff silt; numerous light buff silt intraclasts (1 cm diameter); well stratified; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

18.9-33.2m -light greenish-grey very fine-coarse sand, sandy pebble gravel, and gritty, pebbly, silty very fine sand; crudely bedded; moderate sorting; non-calcareous; subrounded clasts up to 3-4 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL.

33.2-35.1m -dark green, medium grained, inequigranular, gabbro; 15-20% feldspar: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-30-01	2.9	4.1
F87-30-02	5.2	7.8
F87-30-03	7.8	10.4
F87-30-04	11.1	11.4
F87-30-05	14.9	15.8
F87-30-06	19.8	33.2

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-30-01	W	TILL	37.0	45.5	17.5	36.1	0.32
F87-30-02	W	TILL	17.0	62.5	20.5	37.5	0.48
F87-30-03	W	TILL	38.0	41.0	21.0	37.5	0.52
F87-30-04	W	TILL	37.0	41.0	22.0	33.2	0.35
F87-30-05	W	TILL	24.5	32.5	43.0	25.3	0.70

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-30-02	W	TILL	268	1.9	3.4	26.5	2.2	0.0	0.0	64.9	0.0	0.0	1.1
F87-30-06	NE	SAND	427	0.0	12.9	39.6	9.1	18.5	0.7	0.5	0.0	1.4	17.3

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-30-02	W	TILL	10	31	40	1	T	5	11	1					1	1	
F87-30-06	NE	SAND	13	23	37	6	3	8	9			1	T		T	7	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	N. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-30-02	W	TILL	7.4	0.4	7.0	122.9	67.9	55.0	49.3	5.7
F87-30-06	NE	SAND	4.5	0.8	3.7	62.5	53.0	9.5	6.8	2.7

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-30-02	NO VISIBLE GOLD								
F87-30-06	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-30-01G	1	3.0	0.3	3	-0.1	14.7	8	34.6	14	65	5	396		
F87-30-02G	-1	2.5	0.3	3	-0.1	14.2	9	34.3	14	78	5	396		
F87-30-03G	2	2.5	0.3	4	-0.1	14.7	8	33.1	15	67	4	372		
F87-30-04G	-1	2.5	0.2	3	-0.1	15.1	8	34.9	15	93	6	396		
F87-30-05G	3	3.0	0.3	3	-0.1	24.3	11	59.4	26	90	8	720		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-30-02H	160		105	3.1	2		400.7	29	193.0	108	254	127	93		
F87-30-06H	170	185	64	2.9	11	-0.1	102.8	53	134.0	56	640	50	1030		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

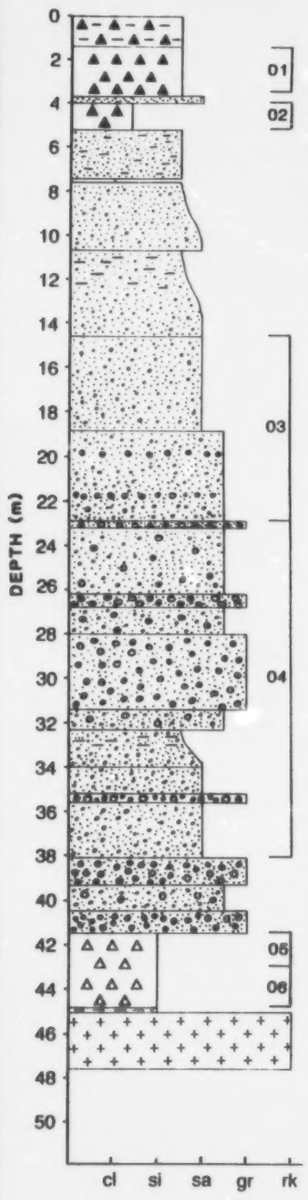
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-31

Township: Blue **Collar Elevation:** 343 m

UTM Coordinates: 5401975 m N 396650 m E

Graphic Log:



Descriptive Log:

0.0-1.4m -mottled light brown, greyish-brown, and buff-grey sandy silt with numerous grits and pebbles, grit-free sandy silt, and silt; crudely bedded; moderate-poor sorting; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERBEDDED WITH GLACIOLACUSTRINE SILT.

1.4-3.7m -light brown sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded-subangular carbonates up to 4 cms diameter; sharp lower contact: KEEWATIN TILL.

3.7-4.0m -brown coarse-very coarse sand; moderate sorting; appears massive; subangular-subrounded grains; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOFLUVIAL SAND.

4.0-5.2m -dark grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; dense and compact; calcareous; <5% clasts by volume; mainly subrounded-subangular carbonate clasts up to 2 cms diameter; sharp lower contact: KEEWATIN TILL.

5.2-18.9m -light greenish-grey to grey silty very fine sand and very fine-medium sand; calcareous clay laminae present near top; gritty and pebbly zones near base; well sorted; crudely bedded; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

18.9-41.5m -greyish-brown, buff-grey, and grey pebble gravel, pebbly coarse sand, and silty very fine sand-coarse sand; well bedded; moderate-high sorting; clean; gravel content variable (up to 80% clasts); clasts subrounded-subangular; up to 4-5 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL.

41.5-44.8m -mottled greyish-blue to greenish-brown sandy silt grading to clayey silt with numerous grits and pebbles; appears massive; poorly sorted; moderate-high density and compaction; greasy feel; non-calcareous; 30-35% clasts by volume; mainly subangular-subrounded schisty fault gouge up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

44.8-47.6m -olive-green, soft, indurated fault gouge; strong fabric parallel to core: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-31-01	1.5	3.5
F87-31-02	4.0	5.2
F87-31-03	14.6	22.9
F87-31-04	22.9	38.1
F87-31-05	41.5	43.0
F87-31-06	43.0	44.8

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-31-01	W	TILL	35.0	41.0	24.0	35.2	0.50
F87-31-02	W	TILL	20.5	37.5	42.0	28.2	0.56
F87-31-05	NE	TILL	20.0	70.5	9.5	1.6	0.38
F87-31-06	NE	TILL	14.5	65.0	20.5	1.9	0.68

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-31-03	NE	SAND	321	0.3	6.2	39.6	5.3	35.2	1.2	0.9	0.0	1.6	9.7
F87-31-04	NE	SAND	414	1.4	14.3	37.2	4.1	27.8	0.0	1.2	0.0	1.7	12.3
F87-31-05	NE	TILL	803	0.0	0.0	0.0	99.6	0.0	0.0	0.2	0.0	0.1	0.0
F87-31-06	NE	TILL	657	0.5	2.1	2.6	0.3	90.9	0.0	0.0	0.0	0.0	3.7

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-31-03	NE	SAND	5	45	28	5		5	5	T		1			T	T	
F87-31-04	NE	SAND	11	45	25	3	1	7	7			1			T	4	
F87-31-05	NE	TILL	T	T	99			T									99% GRANULAR PYROXENE
F87-31-06	NE	TILL	2	21	66	3	1	T	4	1					2	3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-31-03	NE	SAND	6.9	1.9	5.0	73.7	48.8	24.9	21.9	3.0
F87-31-04	NE	SAND	5.0	0.7	4.3	170.8	140.0	30.8	27.7	3.1
F87-31-05	NE	TILL	7.1	2.7	4.4	46.4	30.9	15.5	15.4	0.1
F87-31-06	NE	TILL	6.9	2.2	4.7	52.3	41.7	10.6	10.4	0.2

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-31-03	NO VISIBLE GOLD								
F87-31-04	NO VISIBLE GOLD								
F87-31-05	NO VISIBLE GOLD								
F87-31-06	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-31-01G	2	2.5	0.3	3	-0.1	17.1	10	39.5	17	85	6	406		
F87-31-02G	2	2.5	0.3	3	-0.1	24.3	11	57.3	25	118	8	452		
F87-31-05G	-1	2.0	0.2	-1	0.1	132.3	5	59.1	65	642	27			
F87-31-06G	16	1.0	0.2	-1	0.3	107.5	6	98.4	116	766	52	400		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-31-03H	200	47	164	3.4	3	0.4	1267.7	28	117.0	106	215	139	69		
F87-31-04H	300	358	101	3.0	2	0.9	326.8	34	157.0	85	226	115	83		
F87-31-05H	-5	-1	8	0.2	1	-0.1	633.5	9	75.0	36	170	79	109		
F87-31-06H	260	403	51	0.5	-1	IS	4974.5	16	81.0	107	163	82	1050		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

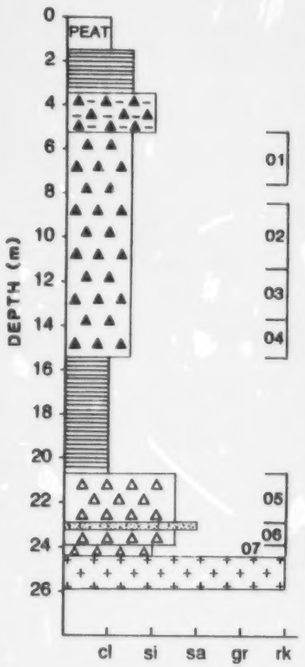
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-32

Township: Nelles **Collar Elevation:** 337 m

UTM Coordinates: 5400500 m N 399800 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -PEAT.

1.5-3.5m -dark grey silty clay; grit and pebble-free; faintly laminated in places; calcareous; some carbonate concretions; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

3.5-5.2m -rhythmically laminated light greyish-brown silt with numerous grits and pebbles and dark grey clay; couplets 10 cms thick; clay laminae 1 cm thick; silt layers massive to faintly stratified; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

5.2-15.4m -dark grey clayey silt with some sand and numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded carbonates up to 3 cms diameter; sharp lower contact: KEEWATIN TILL.

15.4-20.7m -dark grey clay, silty clay, and light grey silt and gritty silt; rhythmically laminated; couplets 2-4 cms thick grading to 8 cms thick; mainly clay; gritty silt layers present near top of unit; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SILT RHYTHMITES.

20.7-23.9m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate-loose compaction; moderate compaction; horizon of fine-medium sand with some silt between 22.9-23.2m; slightly calcareous; 20% clasts by volume; mainly subangular mafic-intermediate extrusives and felsic-intermediate intrusives up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

23.9-24.4m -grey sandy silt with numerous grits and pebbles; more clay than overlying unit; appears massive; poorly sorted; moderate-high density and compaction; slightly calcareous; 35% clasts by volume; mainly subangular intermediate extrusives up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

24.4-25.9m -dark green, fine grained, equigranular mafic volcanic: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-32-01	5.2	7.6
F87-32-02	8.5	11.4
F87-32-03	11.4	13.7
F87-32-04	13.7	15.4
F87-32-05	20.7	22.9
F87-32-06	22.9	23.9
F87-32-07	23.9	24.4

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-32-01	W	TILL	32.5	38.5	29.0	33.8	0.55
F87-32-02	W	TILL	17.0	53.5	29.5	32.3	0.50
F87-32-03	W	TILL	27.5	37.5	35.0	31.5	0.61
F87-32-04	W	TILL	30.0	38.5	31.5	35.9	0.56
F87-32-05	NE	TILL	23.0	68.5	8.5	4.0	0.70
F87-32-06	NE	TILL	27.0	69.5	3.5	3.2	0.28
F87-32-07	NE	TILL	22.0	60.0	18.0	1.7	0.49

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-32-02	W	TILL	311	9.6	0.0	24.1	0.0	0.0	0.6	62.7	1.6	0.0	1.3
F87-32-05	NE	TILL	308	0.0	19.8	32.8	43.5	1.3	0.0	0.0	0.0	1.0	1.6
F87-32-06	NE	TILL	315	0.3	18.1	33.6	20.0	4.4	15.6	0.0	0.0	0.0	7.9
F87-32-07	NE	TILL	237	0.0	0.0	5.0	93.2	0.0	0.0	0.0	0.0	0.0	1.7

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-32-02	W	TILL	17	22	26	4	4	7	16	2		2	T		T	2	
F87-32-05	NE	TILL	6	40	35	7	1	8	2			1	T		T	13	
F87-32-06	NE	TILL	12	36	36	6	1	5	2	1		T			1	10	
F87-32-07	NE	TILL	9	35	33	6		8	7	1		T				3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F87-32-02	W	TILL	7.0	0.5	6.5	54.9	43.2	11.7	8.1	3.6
F87-32-05	NE	TILL	6.9	1.0	5.9	129.0	108.7	20.3	17.1	3.2
F87-32-06	NE	TILL	6.0	1.7	4.3	141.3	110.8	30.5	26.1	4.4
F87-32-07	NE	TILL	5.2	1.2	4.0	51.2	48.5	2.7	2.3	0.4

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-32-02	NO VISIBLE GOLD								
F87-32-05	NO VISIBLE GOLD								
F87-32-06	NO VISIBLE GOLD								
F87-32-07	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-32-01G	3	2.5	0.2	3	0.2	18.2	11	46.7	19	69	6	378		
F87-32-02G	-1	3.0	0.2	3	-0.1	18.0	11	48.4	19	86	6	384		
F87-32-03G	1	3.5	0.2	4	0.1	20.8	10	52.6	21	98	7	384		
F87-32-04G	4	3.5	0.2	4	-0.1	18.5	9	47.2	18	76	6	498		
F87-32-05G	5	1.5	0.2	1	-0.1	25.4	4	39.8	24	124	9	338		
F87-32-06G	3	1.0	-0.2	1	0.1	23.3	2	24.4	18	110	8	298		
F87-32-07G	2	-1.0	0.2	2	0.1	141.2	4	57.4	78	398	29	198		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-32-02H	-11		79	2.4	5		159.2	47	119.0	59	611	52	1020		
F87-32-05H	240	117	60	1.7	1	0.1	917.4	20	77.0	55	340	88	75		
F87-32-06H	78	58	61	1.8	1	1.2	665.3	17	79.0	55	372	95	84		
F87-32-07H	17	-8	43	1.3	23	IS	3321.0	23	102.0	281	1850	252	527		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

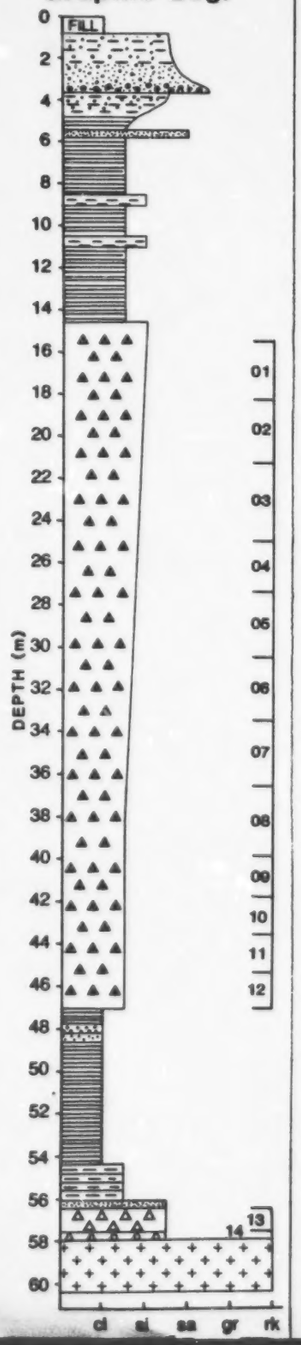
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-33

Township: Morley **Collar Elevation:** 336 m

UTM Coordinates: 5395450 m N 408600 m E

Graphic Log:



Descriptive Log:

0.0-0.8m -FILL

0.8-3.7m -light grey silty very fine sand grading to bluish-grey pebbly coarse sand; well laminated; moderate sorting; loose; calcareous; carbonate concretions present; abundant detrital wood from 2.7-3.5m; sharp lower contact: EMERSON PHASE SILTY SAND OVERLYING MOORHEAD PHASE PEBBLY SAND.

3.7-5.5m -dark bluish-grey sandy silt grading down to clayey silt; grit and pebble-free; massive-faintly laminated; moderate sorting; calcareous; thin laminae (1-2 mms) of compressed fine plant detritus; sharp lower contact: MOORHEAD PHASE SHALLOW LACUSTRINE SILT.

5.5-5.9m -dark bluish-grey silty very fine sand; grit and pebble-free; appears massive; moderate sorting; numerous rip-up clasts of clay (1 cm diameter); calcareous; thin laminae (1-2 mms) of fine compressed plant detritus; sharp lower contact: MOORHEAD PHASE SHALLOW LACUSTRINE SAND.

5.9-14.6m -dark bluish-grey to grey silty clay and clayey silt with minor light grey silt; grit and pebble-free; massive-well laminated; moderate sorting; calcareous; possible fine plant remains between 8.2-8.5m; sharp lower contact: LOCKHART PHASE GLACIOLACUSTRINE SILT AND CLAY.

14.6-47.1m -dark grey clayey silt and silty clay with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <3% clasts by volume; clast content decreases downward; mainly subrounded-subangular carbonates with minor shales and lignite up to 3 cms diameter; sharp lower contact: KEEWATIN TILL.

47.1-50.3m -dark grey clay; appears massive to faintly laminated; a few gritty and pebbly zones between 47.9-48.0m and 48.3-48.5m; moderate-high density; calcareous; gradational lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

50.3-56.1m -dark grey to brownish-grey clay and light grey silt; grit and pebble-free; well laminated to rhythmically laminated; couplets 3-4 cms thick; silt laminae 0.5 cms thick; well sorted; silt laminae slightly calcareous; clay laminae highly calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SILT RHYTHMITES.

56.1-56.5m -light to dark greenish-grey silty very fine sand and very fine sand; well stratified and sorted; a few pebbles 0.5 cms diameter; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIO-LACUSTRINE SAND.

56.5-57.9m -greenish-grey sandy silt with numerous grits and pebbles; appears massive; poorly sorted; lower 0.5m slightly finer grained; moderate density and compaction; 10% clasts by volume; mainly subangular schistose intermediate extrusives up to 2 cms diameter; sharp lower contact: LABRADOREAN TILL.

57.9-60.4m -deeply weathered, olive-green, fine grained fault gouge or intermediate-mafic volcanic with quartz eyes: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-33-01	15.5	18.3	F87-33-08	36.6	39.9
F87-33-02	18.3	21.3	F87-33-09	39.9	41.8
F87-33-03	21.3	24.8	F87-33-10	41.8	43.6
F87-33-04	24.8	27.4	F87-33-11	43.6	45.4
F87-33-05	27.4	30.5	F87-33-12	45.4	47.1
F87-33-06	30.5	33.5	F87-33-13	56.5	57.6
F87-33-07	33.5	36.6	F87-33-14	57.6	57.9

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-33-01	W	TILL	16.0	53.0	31.0	30.2	0.33
F87-33-02	W	TILL	34.0	34.0	32.0	29.5	0.48
F87-33-03	W	TILL	16.0	50.0	34.0	29.9	0.44
F87-33-04	W	TILL	33.0	35.0	32.0	30.0	0.56
F87-33-05	W	TILL	18.5	49.0	32.5	29.4	0.49
F87-33-06	W	TILL	33.0	33.0	34.0	29.4	0.51
F87-33-07	W	TILL	17.5	48.5	34.0	29.9	0.51
F87-33-08	W	TILL	35.0	35.0	30.0	30.9	0.52
F87-33-09	W	TILL	14.0	45.0	41.0	30.0	0.53
F87-33-10	W	TILL	29.0	37.0	34.0	30.3	0.55
F87-33-11	W	TILL	26.0	40.5	33.5	31.0	0.49
F87-33-12	W	TILL	17.0	36.0	47.0	27.9	0.49
F87-33-13	NE	TILL	19.5	72.5	8.0	4.1	1.01
F87-33-14	NE	TILL	22.0	67.5	10.5	5.1	1.38

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-33-01	W	TILL	220	0.0	2.2	20.1	3.9	0.4	0.0	65.4	7.0	0.0	0.9
F87-33-03	W	TILL	203	1.5	3.9	21.7	2.0	0.0	0.0	61.6	8.9	0.0	0.5
F87-33-05	W	TILL	198	1.0	6.6	21.2	1.0	0.5	0.0	62.1	7.1	0.0	0.5
F87-33-07	W	TILL	166	2.4	4.8	19.9	3.6	0.0	0.0	58.4	10.8	0.0	0.0
F87-33-09	W	TILL	192	1.6	4.2	21.9	3.1	0.0	0.0	66.7	2.6	0.0	0.0
F87-33-13	NE	TILL	373	1.1	5.6	8.6	82.0	0.0	1.3	0.0	0.0	0.0	1.3
F87-33-14	NE	TILL	383	0.5	2.3	4.4	0.0	90.3	0.0	0.0	0.0	0.0	2.3

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-33-01	W	TILL	9	21	37	2	2	10	18	T		1	T		T	4	
F87-33-03	W	TILL	10	17	36	8	2	8	18	T		T			1	11	
F87-33-05	W	TILL	8	22	42	7	1	9	9	1		T			1	T	
F87-33-07	W	TILL	13	21	37	9	2	9	7			2			T	5	
F87-33-09	W	TILL	13	13	45	9	3	7	8	1	1	T	T		T	7	
F87-33-13	NE	TILL	3	21	38	8	2	13	13	1		1			T	1	
F87-33-14	NE	TILL	2	37	34	4	1	8	14			T			T	3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-33-01	W	TILL	8.5	0.2	8.3	77.9	66.8	11.1	8.2	2.9
F87-33-03	W	TILL	5.5	0.3	5.2	59.0	50.5	8.5	6.3	2.2
F87-33-05	W	TILL	4.6	0.2	4.4	123.2	115.7	7.5	5.5	2.0
F87-33-07	W	TILL	4.5	0.2	4.3	74.1	67.9	6.2	4.4	1.8
F87-33-09	W	TILL	5.1	0.5	4.6	85.1	79.4	5.7	3.9	1.8
F87-33-13	NE	TILL	8.4	2.9	5.5	143.3	124.6	18.7	14.8	3.9
F87-33-14	NE	TILL	5.4	1.6	3.8	103.0	88.2	14.8	12.0	2.8

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-33-01	NO VISIBLE GOLD								
F87-33-03	NO VISIBLE GOLD								
F87-33-05	NO VISIBLE GOLD								
F87-33-07	NO VISIBLE GOLD								
F87-33-09	NO VISIBLE GOLD								
F87-33-13	NO VISIBLE GOLD								
F87-33-14	50 X 75		1		1			2	EST. 50% PYRITE
								2	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-33-01G	2	4.0	0.3	3	-0.1	19.5	11	51.3	20	75	7	428		
F87-33-02G	3	4.0	0.4	3	-0.1	20.3	11	53.4	20	73	7	446		
F87-33-03G	3	4.0	0.4	4	-0.1	20.1	11	54.2	21	71	7	428		
F87-33-04G	2	4.0	0.4	4	-0.1	20.2	13	53.0	21	79	6	434		
F87-33-05G	-1	4.0	0.4	3	-0.1	19.8	11	55.2	21	74	7	532		
F87-33-06G	-1	4.0	0.4	3	0.1	19.8	11	54.4	20	128	7	434		
F87-33-07G	-1	4.0	0.3	2	0.2	18.8	10	48.6	20	70	7	420		
F87-33-08G	2	3.0	0.3	2	-0.1	18.9	11	49.2	19	73	7	358		
F87-33-09G	-1	3.0	0.3	2	0.1	20.0	10	49.6	21	73	7	382		
F87-33-10G	1	3.0	0.3	2	0.1	19.9	10	49.9	20	76	7	382		
F87-33-11G	2	3.0	0.3	2	-0.1	19.6	9	49.8	19	82	7	420		
F87-33-12G	1	3.0	0.3	3	0.2	22.6	12	61.9	23	90	8	364		
F87-33-13G	7	2.0	0.3	-1	0.1	58.7	5	57.2	116	488	21	370		
F87-33-14G	12	1.0	0.3	2	-0.1	72.3	5	61.8	191	854	27	340		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-33-01H	150		95	4.0	7		105.9	57	178.0	75	751	53	3060		
F87-33-03H	18		76	3.1	7		100.9	56	165.0	61	670	44	2320		
F87-33-05H	17		79	3.8	9		99.9	63	176.0	71	706	48	6690		
F87-33-07H	-12		83	3.5	7		96.0	63	170.0	78	622	49	2050		
F87-33-09H	-13		74	2.6	5		104.6	58	144.0	82	539	54	1360		
F87-33-13H	150	168	111	3.2	3	0.8	332.9	42	61.0	120	354	189	337		
F87-33-14H	350	280	150	4.2	2	1.4	331.3	40	61.0	88	410	180	466		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

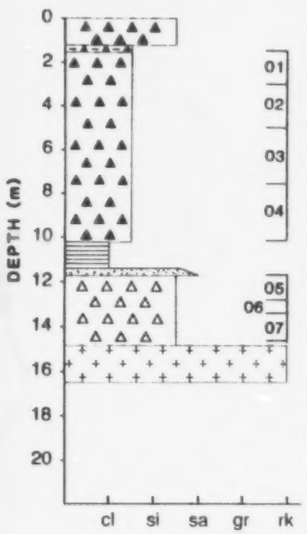
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F87-34

Township: Dobie **Collar Elevation:** 355 m

UTM Coordinates: 5393050 m N 430900 m E

Graphic Log:



Descriptive Log:

0.0-1.2m -mottled light brown and buff-grey sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded carbonate clasts up to 2 cms diameter; sharp lower contact: KEEWATIN TILL.

1.2-1.5m -rhythmically laminated light buff-grey silt with numerous grits and pebbles and dark grey clay; couplets 1 cm thick; clay laminae 2-3 mms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

1.5-10.2m -light greyish-brown and brownish-grey grading to dark grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded-subangular carbonate clasts up to 5 cms diameter; some intraclasts of glaciolacustrine silt (1 cm diameter) near base of unit; sharp lower contact: KEEWATIN TILL.

10.2-11.4m -rhythmically laminated dark grey clay and light buff-grey silt; couplets 3-5 cms thick; silt laminae 1-2 mms thick; grit and pebble-free; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SILT RHYTHMITES.

11.4-11.7m -grey silty fine sand grading to pebbly medium-coarse sand with abundant silt; poorly sorted; normally graded; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

11.7-14.9m -grey to light greenish-grey sandy silt grading to silty very fine sand; numerous grits and pebbles; appears massive; poorly sorted; moderate-high density and compaction; blocky near base; slightly calcareous; 10-15% clasts by volume; mainly subangular felsic-mafic intrusives and mafic extrusives; mafic intrusive content increases towards the base; sharp lower contact: LABRADOREAN TILL.

14.9-16.5m -dark green, fine grained, schistose, mafic volcanic; quartz veinlets with alteration along fractures: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F87-34-01	1.5	3.0	F87-34-05	11.7	12.8
F87-34-02	3.0	5.0	F87-34-06	12.8	13.4
F87-34-03	5.0	7.6	F87-34-07	13.4	14.8
F87-34-04	7.6	10.2	F87-34-08	14.8	14.9

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F87-34-01	W	TILL	15.0	37.0	48.0	31.2	0.84
F87-34-02	W	TILL	13.0	37.0	50.0	28.1	0.67
F87-34-03	W	TILL	17.0	35.0	48.0	29.0	0.44
F87-34-04	W	TILL	20.0	28.0	52.0	26.5	0.51
F87-34-05	NE	TILL	30.0	68.0	2.0	2.5	0.68
F87-34-06	NE	TILL	26.5	69.5	4.0	3.3	0.17
F87-34-07	NE	TILL	36.5	61.5	2.0	2.7	0.59
F87-34-08	NE	TILL	58.0	38.0	4.0	2.9	0.88

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F87-34-02	W	TILL	106	0.9	6.6	17.9	1.9	0.0	0.0	71.7	0.9	0.0	0.0
F87-34-04	W	TILL	157	0.0	4.5	27.4	5.1	0.6	0.0	56.1	5.0	0.0	1.3
F87-34-05	NE	TILL	560	25.9	16.3	48.6	7.0	0.0	2.1	0.0	0.0	0.2	0.0
F87-34-06	NE	TILL	507	26.0	19.1	43.0	7.3	1.2	1.6	0.0	0.0	0.0	1.8
F87-34-07	NE	TILL	479	45.3	10.0	36.0	6.5	0.0	0.8	0.0	0.0	0.2	0.6

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F87-34-02	W	TILL	18	21	40	6	2	7	1	2	T	3			T	2	
F87-34-04	W	TILL	10	17	40	8	2	8	14			T			1	11	
F87-34-05	NE	TILL	8	22	56	8	1	3	2			T				3	
F87-34-06	NE	TILL	8	17	58	4	3	2	7			1			T	T	
F87-34-07	NE	TILL	8	19	55	1	3	5	8			1				2	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F87-34-02	W	TILL	4.3	0.1	4.2	70.5	68.2	2.3	1.4	0.9
F87-34-04	W	TILL	6.1	0.3	5.8	120.3	117.5	2.8	2.0	0.8
F87-34-05	NE	TILL	7.4	2.6	4.8	210.9	166.6	44.3	36.3	8.0
F87-34-06	NE	TILL	6.4	1.6	4.8	225.3	191.7	33.6	27.1	6.5
F87-34-07	NE	TILL	6.4	2.5	3.9	223.1	179.2	43.9	33.8	10.1

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F87-34-02	25 X 50		1					1	EST. <1% PYRITE
	50 X 125	1						1	
	75 X 100		1					1	
	75 X 150		1					1	
								4	
F87-34-04	100 X 125			1				1	EST. 15% PYRITE
	125 X 225	1						1	5% MARCASITE
								2	
F87-34-05	NO VISIBLE GOLD								
F87-34-06	NO VISIBLE GOLD								
F87-34-07	250 X 300	1						1	EST. 20 % PYRITE
								1	5% MARCASITE
									5 NATIVE COPPER GRAINS

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-34-01G	-1	4.0	0.3	3	-0.1	20.7	13	51.7	21	81	8	358		
F87-34-02G	-1	4.0	0.3	3	-0.1	21.5	12	56.0	21	83	6	376		
F87-34-03G	-1	4.0	0.3	3	0.2	22.2	13	58.5	23	89	8	310		
F87-34-04G	-1	4.0	0.3	3	-0.1	22.2	12	62.0	23	64	8	346		
F87-34-05G	8	3.0	-0.2	-1	-0.1	28.1	3	25.6	40	162	12	469	-5	15
F87-34-06G	4	2.0	0.2	-1	-0.1	24.3	5	23.4	33	144	10	505	-5	12
F87-34-07G	24	4.0	0.2	-1	0.2	26.1	5	19.4	23	106	9	510	-5	13
F87-34-08G	9	2.0	0.2	1	0.4	38.8	10	35.3	24	86	13	453	-5	9

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-34-02H	2110		13	1.7	-1		77.6	46	62.0	12	898	12	2590		
F87-34-04H	330		95	3.3	3		159.4	64	148.0	80	480	92	2570		
F87-34-05H	70	62	76	1.1	4	-0.1	166.8	38	49.9	86	434	109	35	13	34
F87-34-06H	56	47	117	1.1	4	0.2	166.2	46	62.8	57	445	117	62	-8	12
F87-34-07H	570	149	130	1.7	4	0.1	195.0	37	49.3	103	437	112	26	15	18

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

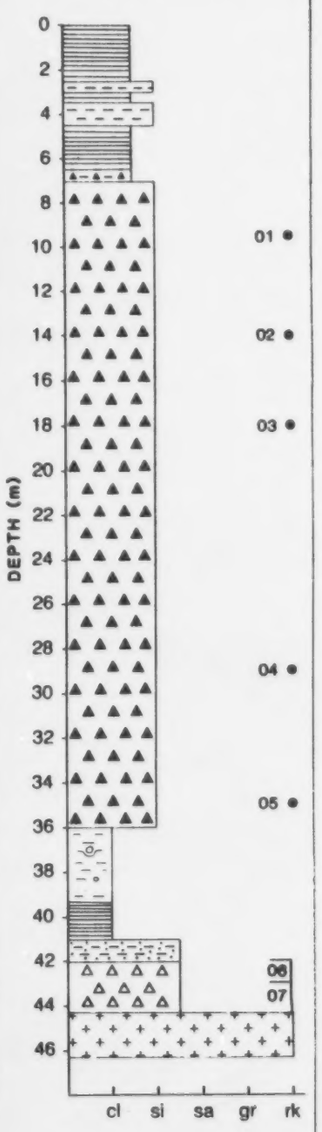
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F87-34-05M	7	3	4	0.6	2		60.4	14	46.4	99	2600	59	21	24	15
F87-34-06M	-5	13	3	0.5	10		59.1	11	39.6	107	2540	77	35	34	17
F87-34-07M	7	4	3	0.5	7		42.5	13	35.1	94	2370	77	18	28	13

Sonic Borehole Number: F88-01

Township: Morley **Collar Elevation:** 339 m

UTM Coordinates: 5390450 m N 414350 m E

Graphic Log:



Descriptive Log:

0.0-6.5m -light buff-brown grading to brownish-grey silty clay, clayey silt, and silt with minor very fine sand; grit and pebble-free; well sorted; massive to laminated; calcareous; some carbonate concretions present; distinct layer of grit-free brownish-red silty clay between 1.80-1.81m; sharp lower contact: EMERSON PHASE GLACIO-LACUSTRINE CLAY AND SILT.

6.5-7.0m -light grey clayey silt with deformed intraclasts of gritty brown silt (1-2 cms diameter) and numerous small carbonate pebbles; calcareous; appears massive; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOW.

7.0-36.0m -light brownish-grey grading to dark grey loam with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subangular-subrounded carbonate clasts up to 3 cms diameter; numerous weathered crystalline clasts; numerous intraclasts of glaciolacustrine silt and very fine sand (1 cm diameter) between 14.0-36.0m; sharp lower contact: KEEWATIN TILL.

36.0-39.3m -dark grey clay and silty clay with minor light grey silt; massive to faintly laminated; a few small pebbles up to 1 cm diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIO-LACUSTRINE CLAY.

39.3-41.0m -rhythmically laminated light greenish-grey silt and dark grey clay; couplets 2-4 cms thick; clay layers grade from 3.0 to 1.5 cms thick; grit and pebble-free; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

41.0-42.0m -greenish-grey sandy silt; slightly gritty; faintly laminated in places; moderately sorted; slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT.

42.0-44.3m -greenish-grey silty sand grading to sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate-high density and compaction; 15-20% clasts by volume; mainly subangular mafic-intermediate extrusives, metagreywackes, and felsic-intermediate intrusives up to 15 cms diameter; sharp lower contact: LABRADOREAN TILL.

44.3-46.3m -medium grained, well foliated, intermediate to mafic porphyry: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-01-01	9.5	
F88-01-02	14.0	
F88-01-03	18.0	
F88-01-04	29.0	
F88-01-05	35.0	
F88-01-06	42.0	43.0
F88-01-07	43.0	44.3

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-01-01	W	TILL	34.5	31.5	34.0	31.9	0.72
F88-01-02	W	TILL	34.5	32.5	33.0	31.8	0.65
F88-01-03	W	TILL	32.5	31.5	36.0	31.0	0.69
F88-01-04	W	TILL	35.5	30.5	34.0	32.1	0.65
F88-01-05	W	TILL	32.0	31.0	37.0	30.7	0.70
F88-01-06	NE	TILL	60.0	33.0	7.0	4.5	0.92
F88-01-07	NE	TILL	36.5	49.5	14.0	1.2	0.85

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-01-06	NE	TILL	308	3.2	18.2	14.6	30.8	0.0	30.5	0.3	0.0	0.0	2.3
F88-01-07	NE	TILL	366	1.6	46.7	9.6	37.7	0.0	3.3	0.3	0.0	0.0	0.8

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-01-06	NE	TILL	6	50	14	8	5	3	12		2	T	T		T	2	
F88-01-07	NE	TILL	7	52	11	5	3	6	14		1	1	T	T	T	3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-01-06	NE	TILL	11.0	4.0	7.0	277.4	257.2	20.2	16.6	3.6
F88-01-07	NE	TILL	7.6	1.8	5.8	330.4	326.2	4.2	3.5	0.7

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-01-06	25 X 25		1					1	EST. 40% PYRITE EST. 140 GRAINS NATIVE COPPER SIZE RANGE 50 TO 1200 MICRONS
								1	
F88-01-07	75 X 100				1			1	EST. 1% PYRITE EST. 40 GRAINS NATIVE COPPER SIZE RANGE 50 TO 2500 MICRONS
	75 X 125	1						1	
								2	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-01-01G	-1	3.0	0.3	2	-0.1	19.1	10	50.8	19	72	7	394		
F88-01-02G	-1	3.0	0.3	2	-0.1	17.9	10	46.7	18	72	6	408		
F88-01-03G	-1	3.5	0.3	3	-0.1	19.1	11	47.4	19	67	6	352		
F88-01-04G	-1	3.5	0.2	3	-0.1	18.5	11	46.7	18	55	7	352		
F88-01-05G	-1	3.0	0.3	2	0.1	18.0	10	47.8	19	70	7	368		
F88-01-06G	7	2.5	0.3	1	-0.1	42.5	5	38.6	34	140	11	318		
F88-01-07G	-1	1.0	0.2	1	-0.1	32.8	8	97.3	44	63	20	228		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-01-06H	130	170	117	2.6	3	0.7	1034.8	21	40.0	81	283	143	250		
F88-01-07H	721	849	165	3.4	6	IS	1763.0	63	215.0	129	257	174	303		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

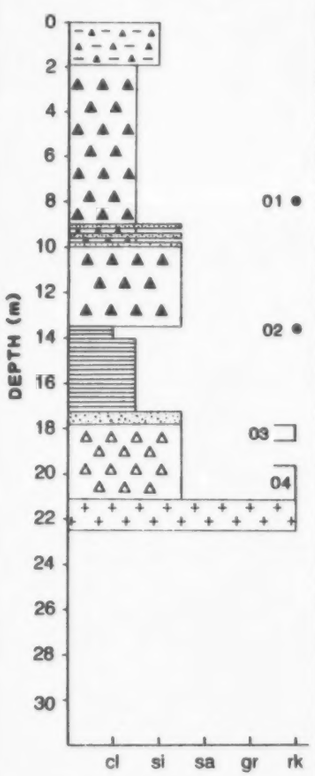
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-02

Township: Morley **Collar Elevation: 338 m**

UTM Coordinates: 5390500 m N 417650 m E

Graphic Log:



Descriptive Log:

0.0-1.9m -rhythmically laminated light buff gritty and slightly pebbly silt and dark greyish-brown clay; couplets 1-2 cms thick; clay laminae 2 mms thick; calcareous; mainly carbonate pebbles; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

1.9-9.0m -light greyish-brown to dark grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded carbonate clasts up to 3 cms diameter; some shales and crystalline clasts noticed; sharp lower contact: KEEWATIN TILL.

9.0-10.0m -well bedded, light grey, gritty sandy silt, silty sand and silty clay till; silt and sand layers are faintly laminated and moderately sorted; till layers are massive, poorly sorted, and moderately dense; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOWS.

10.0-13.5m -light greyish-brown silty sand with numerous grits and pebbles; appears massive; poorly sorted; soft and rubbery; calcareous; <5% clasts by volume; mainly subangular-subrounded carbonate clasts up to 1 cm diameter; sharp lower contact: KEEWATIN TILL.

13.5-14.0m -light grey clay with minor silty clay to silty very fine sand; well laminated; a few small pebbles; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

14.0-17.3m -light greenish-grey clay, clayey silt, and silt; faintly laminated and predominantly clay with a few grits from 14.0-16.0m; rhythmically laminated from 16.0-17.3m; couplets 1.0-1.5 cms thick; silt laminae 1-2 mms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIO-LACUSTRINE CLAY AND SILT.

17.3-17.8m -light greenish-grey silty very fine sand to sandy silt; moderately sorted; appears massive; a few pebbles and small cobbles; slightly calcareous; disturbed by drill; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SAND AND SILT.

17.8-21.1m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; slightly calcareous; 15-20% clasts by volume; mainly subangular mafic extrusives with finely disseminated pyrite and calcite veins up to 10 cms diameter; one mafic extrusive boulder 60 cms diameter encountered at 18.5m; sharp lower contact: LABRADOREAN TILL.

21.1-22.5m -dark green, fine grained; mafic flow; brecciated with calcite veins; host rock unaltered by the calcite; <5% pyrite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-02-01	8.0	
F88-02-02	13.5	
F88-02-03	17.8	18.5
F88-02-04	19.6	21.1

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-02-01	W	TILL	29.5	29.5	41.0	29.3	0.58
F88-02-02	W	TILL	43.0	37.0	20.0	34.0	0.52
F88-02-03	NE	TILL	73.0	22.0	5.0	4.2	0.96

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-02-03	NE	TILL	463	0.4	76.5	19.0	2.4	0.9	0.0	0.2	0.0	0.0	0.6
F88-02-04	NE	TILL	600	1.5	78.3	14.8	3.0	0.0	1.0	0.2	0.0	0.0	1.2

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-02-03	NE	TILL	6	45	16	3	2	10	18		T	T		T	T	3	
F88-02-04	NE	TILL	2	48	15	2		10	20			1	T	1	T	4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F88-02-03	NE	TILL	8.7	3.6	5.1	331.8	289.5	42.3	35.1	7.2
F88-02-04	NE	TILL	10.6	7.0	3.6	196.9	177.6	19.3	16.0	3.3

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-02-03	50 X 75		2					2	EST. 70% PYRITE
	100 X 150		1					1	
								3	
F88-02-04	100 X 150		1					1	EST. 60% PYRITE
								1	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-02-01G	2	4.0	0.2	3	-0.1	20.3	11	55.9	20	59	7	298		
F88-02-02G	2	2.5	0.2	2	0.1	15.1	9	35.9	14	55	5	312		
F88-02-03G	3	2.0	0.2	-1	0.3	72.7	4	48.4	46	147	17	332		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-02-03H	97	157	154	2.7	2	0.1	602.0	18	60.0	196	254	233	55		
F88-02-04H	110	132	158	3.4	3	0.4	820.0	16	57.0	189	465	222	49		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

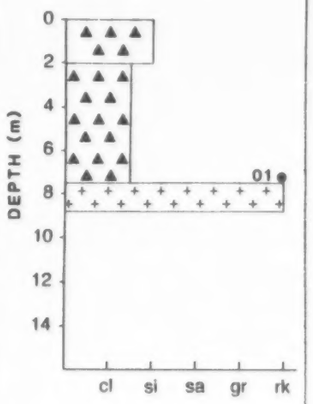
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-03

Township: Shenston **Collar Elevation:** 344 m

UTM Coordinates: 5391150 m N 419200 m E

Graphic Log:



Descriptive Log:

0.0-2.0m -mottled orangy-brown, light buff-brown, and greyish-brown silt with numerous grits and pebbles; poorly sorted; appears massive; high density and compaction; calcareous; <5% clasts by volume; mainly subangular-subrounded carbonates up to 1 cm diameter; numerous rotted crystalline clasts; sharp lower contact: KEEWATIN TILL.

2.0-7.5m -mottled orangy-brown, greyish-brown, and brownish-grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; high density and compaction; calcareous; <5% clasts by volume; mainly subangular-subrounded carbonate clasts with minor grey shale; clasts up to 1.5 cms diameter; a few small intermediate intrusive cobbles (10 cms diameter); sharp lower contact: KEEWATIN TILL.

7.5-8.8m -medium grained, equigranular diabase: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-03-01	7.5				

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-03-01	W	TILL	18.0	30.0	52.0	28.0	0.69

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META- SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-03-01G	1	4.5	0.2	3	-0.1	22.8	10	58.7	23	64	8	290		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

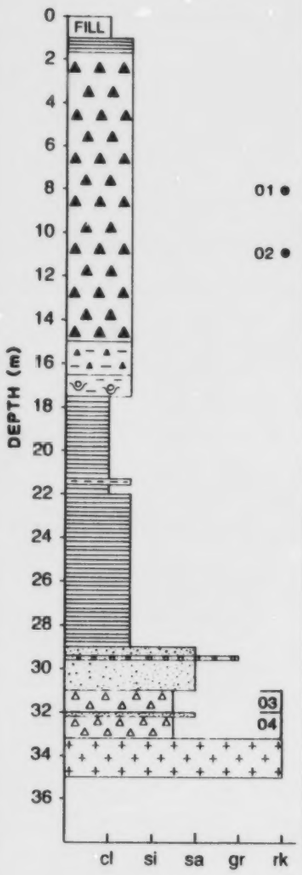
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-04

Township: Shenston **Collar Elevation:** 352 m

UTM Coordinates: 5395350 m N 419700 m E

Graphic Log:



Descriptive Log:

0.0-1.0m -FILL.

1.0-1.7m -mottled orangy-brown, greyish-brown, and brownish-grey silty clay and clayey silt; heavily oxidized; grit and pebble-free; faintly laminated; calcareous; carbonate concretions present; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND CLAY.

1.7-15.0m -mottled orangy-brown and greyish-brown grading to dark grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded-subangular carbonates up to 3-4 cms diameter; small intraclasts of silt and gritty, silty very fine sand between 11.0-15.0m (0.5 cms diameter); sharp lower contact: KEEWATIN TILL.

15.0-16.5m -grey clayey silt with a few grits and pebbles interbedded with laminae of light brown gritty, sandy silt; laminae up to 0.5 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOWS.

16.5-17.5m -rhythmically laminated dark grey, gritty silty clay and greyish-brown sandy silt with numerous grits and pebbles; couplets 1 cm thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS AND GLACIO-LACUSTRINE CLAY.

17.5-29.0m -rhythmically laminated dark greyish-brown clay and silty clay and light greenish-grey silt; grit and pebble-free; small intraclasts of glaciolacustrine silt (1 mm diameter) in upper 3.5m; layer of gritty, pebbly sandy silt between 21.3-21.5m; couplets 0.5 cms thick grading to 10 cms thick; clay laminae 1-2 mms thick near top increasing to 1.5 cms near base; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

29.0-31.0m -grey silty very fine sand to pebbly medium sand; a few small cobbles encountered at 29.5m up to 3 cms diameter; moderately well sorted and stratified; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

31.0-33.2m -grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density; loose; horizon of sorted medium sand from 32.0-32.2m; slightly calcareous; 25% clasts by volume; mainly subangular metagreywackes and felsic-intermediate intrusives up to 10 cms diameter; some faceted and bullet-shaped clasts; sharp lower contact: LABRADOREAN TILL.

33.2-35.0m -light grey, fine grained, tuffaceous greywacke or distal tuff; sugary texture; well sorted; foliated: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-04-01	8.0	
F88-04-02	11.0	
F88-04-03	31.0	32.0
F88-04-04	32.0	33.2

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-04-01	W	TILL	27.0	29.0	44.0	28.4	0.64
F88-04-02	W	TILL	26.0	32.0	42.0	29.2	0.63
F88-04-03	NE	TILL	73.0	23.0	4.0	3.0	0.79
F88-04-04	NE	TILL	82.0	15.0	3.0	2.2	0.43

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-04-03	NE	TILL	332	5.7	14.5	32.2	15.4	0.0	31.0	0.3	0.3	0.0	0.6
F88-04-04	NE	TILL	326	7.4	7.4	35.3	10.1	0.0	39.0	0.0	0.0	0.0	0.9

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-04-03	NE	TILL	18	30	26	7	1	7	7	T		3	1	T	T	2	
F88-04-04	NE	TILL	17	27	25	8	1	8	11	T	1	1	T	T	T	2	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-04-03	NE	TILL	12.4	3.8	8.6	258.4	198.0	60.4	47.7	12.7
F88-04-04	NE	TILL	12.9	5.0	7.9	229.0	173.3	55.7	44.9	10.8

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-04-03	25 X 50		1					1	EST. 40% PYRITE
	50 X 50		1					1	
	75 X 75		1					1	
	75 X 100	2	1					3	
	75 X 150	1	1					2	
	100 X 150		1					1	
	125 X 125		1					1	
								10	
F88-04-04	25 X 25		1					1	EST. 40% PYRITE
	50 X 50		1					1	
	50 X 75	1						1	
	50 X 100	1						1	
	100 X 125		1					1	
	175 X 200	2						2	
	250 X 350	1						1	
								8	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-04-01G	1	4.0	0.2	2	0.1	20.9	13	54.0	21	63	8	340		
F88-04-02G	1	4.0	0.2	3	-0.1	21.9	14	52.4	22	64	8	332		
F88-04-03G	2	2.0	0.2	-1	-0.1	19.0	4	22.0	16	118	6	580		
F88-04-04G	3	2.0	0.2	-1	-0.1	29.7	6	25.9	20	140	7	436		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-04-03H	808	863	110	1.7	2	0.1	135.3	20	43.0	87	279	147	55		
F88-04-04H	290	586	98	1.4	2	-0.1	134.3	18	58.0	76	299	144	37		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

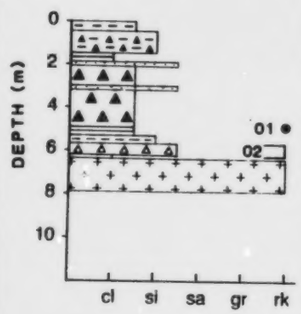
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-05

Township: Patullo **Collar Elevation:** 350 m

UTM Coordinates: 5403450 m N 417850 m E

Graphic Log:



Descriptive Log:

0.0-0.5m -light greyish-brown clayey silt; grit and pebble-free; heavily oxidized; appears massive; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT.

0.5-1.5m -rhythmically laminated light buff-brown gritty and pebbly silt and dark greyish-brown clay; couplets 5-10 cms thick; clay laminae 0.5-1.5 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

1.5-1.9m -dark greyish-brown and brownish-grey silty clay with a few grits and small pebbles; oxidized and mottled; appears massive; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

1.9-4.9m -mottled dark greyish-brown and brownish-grey silty clay with a few grits and pebbles; a few gritty, sandy silt horizons from 1.90-1.95m and from 3.00-3.05m; massive; poorly sorted; moderate density and compaction; 1-2% clasts by volume; mainly subrounded carbonate clasts up to 0.5 cms diameter; some reddish siltstones noticed; sharp lower contact: KEEWATIN TILL.

4.9-5.3m -rhythmically laminated dark grey silty clay and clay and light buff silt; very few grits and pebbles; couplets 1 cm thick; silt laminae 1-2 mms thick; calcareous; KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SILT RHYTHMITES.

5.3-5.7m -grey to olive-grey silt, sandy silt, and clayey silt; a few grits and small pebbles; appears massive; moderate sorting; disturbed (drill induced); slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT.

5.7-6.2m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; slightly calcareous; 15-20% clasts by volume; mainly subangular mafic extrusives and felsic-intermediate intrusives up to 7-8 cms diameter; sharp lower contact: LABRADOREAN TILL.

6.2-6.3m -dark greyish-brown clay; grit and pebble-free; appears massive; slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIO-LACUSTRINE CLAY.

6.3-7.9m -medium grained, equigranular, tonalite; chlorite, quartz, and pyrite along slickensided joints; anastamosing quartz veinlets: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-05-01	4.9	
F88-05-02	5.7	6.3

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-05-01	W	TILL	9.0	29.0	62.0	26.7	1.35
F88-05-02	NE	TILL	65.5	21.5	13.0	5.6	0.78

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-05-02	NE	TILL	282	3.5	61.3	25.2	7.8	0.0	0.7	0.0	0.0	0.0	0.4

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-05-02	NE	TILL	9	37	26	3	1	10	12	1	1	T	T	T	T	3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-05-02	NE	TILL	8.9	2.7	6.2	261.8	223.7	38.1	32.0	6.1

Gold Grain Data

SAMPLE NO.	DIAMETER	ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-05-02	25 X 25				1		1	2	EST. 25% PYRITE
	25 X 50				3			3	
	50 X 50	1						1	
	50 X 75	1	2					3	
	50 X 100	1	1					2	
	75 X 75		1					1	
	75 X 225			1				1	
	100 X 175	1						1	
								14	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-05-01G	2	7.0	0.2	4	-0.1	23.9	15	63.0	24	72	10	394		
F88-05-02G	2	2.5	0.2	1	-0.1	58.7	4	40.7	50	386	16	300		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-05-02H	520	293	155	2.6	1	0.6	504.4	20	168.0	143	329	189	43		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

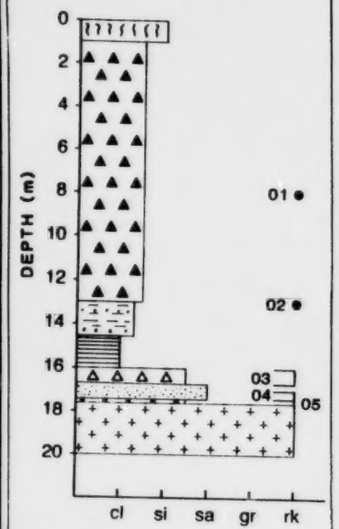
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-06

Township: Tait **Collar Elevation:** 359 m

UTM Coordinates: 5399750 m N 421100 m E

Graphic Log:



Descriptive Log:

0.0-1.0m -TOPSOIL.

1.0-13.0m -mottled orangy-brown, greyish-brown, and brownish-grey grading to dark grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; horizontal platiness in places (fissility); calcareous; some carbonate concretions in upper 4.0m; <5% clasts by volume; mainly subrounded-subangular carbonates up to 2-3 cms diameter; some intraclasts of glaciolacustrine silt and silty very fine sand (1-2 mms diameter) from 2.0-13.0m; sharp lower contact: KEEWATIN TILL.

13.0-14.5m -dark grey clay, gritty and pebbly clay, and light grey silt and clayey silt with some grits and pebbles; well stratified; moderate sorting; carbonate pebbles up to 1 cm diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH DEBRIS FLOWS.

14.5-16.0m -rhythmically laminated dark brownish-grey clay and light grey silt; grit and pebble-free; couplets up to 2 cms thick; clay layers 0.5-1.0 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

16.0-16.7m -light greenish-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate-high density and compaction; slightly calcareous; 35% clasts by volume; mainly subangular mafic extrusives and felsic-intermediate extrusives and intrusives up to 5 cms diameter; sharp lower contact: LABRADOREAN TILL.

16.7-17.4m -dark grey medium sand grading to pebbly coarse sand (normally graded); well sorted; gravel-free; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

17.4-17.6m -same as from 16.0-16.7m; mainly angular-subangular metagreywackes and felsic-intermediate intrusives; sharp lower contact: LABRADOREAN TILL.

17.6-20.0m -grey, fine grained greywacke with quartz veins and finely disseminated pyrite and massive pyrite in vugs: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-06-01	8.0	
F88-06-02	13.0	
F88-06-03	16.0	16.7
F88-06-04	17.0	17.4
F88-06-05	17.4	17.6

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-06-01	W	TILL	10.5	26.5	63.0	24.0	0.59
F88-06-02	W	TILL	11.0	27.0	62.0	24.7	0.58
F88-06-03	NE	TILL	66.5	31.5	2.0	2.5	0.35
F88-06-05	NE	TILL	52.5	40.5	7.0	1.6	0.38

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-06-03	NE	TILL	303	12.2	39.3	17.2	25.1	1.3	4.3	0.0	0.0	0.0	0.7
F88-06-04	NE	SAND	362	9.1	45.3	24.0	12.7	0.3	4.4	0.8	0.3	0.0	3.0
F88-06-05	NE	TILL	378	6.3	2.9	18.5	20.4	0.0	51.3	0.3	0.0	0.0	0.3

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-06-03	NE	TILL	6	33	27	7	1	15	8		2	1	T	T	T	3	
F88-06-04	NE	SAND	11	29	27	4	1	10	13		1	2	2	T		4	
F88-06-05	NE	TILL	13	20	29	6	2	7	18	1		1	3	T	T	4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-06-03	NE	TILL	6.6	2.5	4.1	138.3	118.4	19.9	17.0	2.9
F88-06-04	NE	SAND	10.5	4.5	6.0	192.9	178.5	14.4	11.3	3.1
F88-06-05	NE	TILL	6.3	2.5	3.8	187.1	161.3	25.8	19.6	6.2

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-06-03	25 X 25		1					1	EST. 3% PYRITE
	50 X 50	1						1	
	50 X 75	2						2	
	75 X 75	1						1	
	75 X 100		1					1	
								6	
F88-06-04	NO VISIBLE GOLD								
F88-06-05	25 X 50						1	1	EST. 15% PYRITE
	50 X 50		1					1	
	75 X 125	1						1	
								3	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-06-01G	-1	4.5	0.2	4	-0.1	22.5	13	60.7	24	86	8	408		
F88-06-02G	1	5.5	0.2	4	-0.1	21.7	13	58.9	22	104	8	380		
F88-06-03G	2	2.0	0.2	-1	0.1	31.7	6	34.3	33	139	9	466		
F88-06-05G	-1	1.5	0.3	2	0.2	47.6	12	43.7	51	196	14	548		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-06-03H	280	326	100	1.7	1	-0.1	276.7	26	45.0	101	374	129	43		
F88-06-04H	150	218	121	3.4	2	0.1	354.7	37	88.0	116	286	171	43		
F88-06-05H	94	60	229	3.4	3	0.4	384.5	37	54.0	139	316	179	57		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

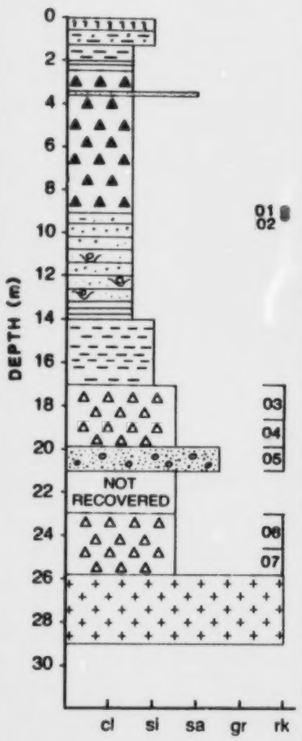
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-07

Township: Tait **Collar Elevation:** 361 m

UTM Coordinates: 5403350 m N 424400 m E

Graphic Log:



Descriptive Log:

0.0-0.6m -TOPSOIL.

0.6-1.3m -light buff-brown silt with a few grits and pebbles and dark grey clay; well laminated; moderate sorting; gritty silt layers appear massive; pebbles up to 1.5 cms diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

1.3-2.5m -mottled orangy-brown, light greyish-brown, and brownish-grey silty clay, clayey silt, and silt and dark grey clay; grit and pebble-free; well laminated near top; rhythmically laminated from 2.0-2.5m; couplets 10 cms thick; clay laminae 1.0-1.5 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

2.5-9.1m -dark greyish-brown to grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; two gritty fine-medium sand layers 0.5 cms thick encountered at 3.5m; gritty silt and clayey silt zones between 7.1-7.4m; intraclasts of glaciolacustrine silt and gritty silt at 3.0m and 9.0m (1 cm diameter); moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded carbonate clasts up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED DIAMICTON.

9.1-13.5m -light grey, gritty and pebbly clay to clayey silt and grit-free clayey silt; well stratified; moderate-poor sorting; numerous intraclasts of glaciolacustrine silt up to 1 cm diameter; mainly carbonate pebbles up to 2-3 cms diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERBEDDED WITH GLACIOLACUSTRINE SILT.

13.5-14.0m -dark brownish-grey silty clay and clay grading down to clayey silt; a few pebbles present; well laminated; slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

14.0-17.0m -light greenish-grey silt and greyish-brown clay; grit and pebble-free; well laminated; predominantly silt; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

17.0-19.9m -light greenish-grey silty very fine sand with numerous grits and pebbles; mainly massive except for thin layers of pebbly medium sand 2-3 cms thick between 17.5-18.6m; moderate density and compaction; 20% clasts by volume; mainly subangular mafic extrusives, felsic-intermediate intrusives, and felsic-intermediate extrusives up to 7-8 cms diameter; most clasts have silt coatings; sharp lower contact; LABRADOREAN TILL.

19.9-21.0m -grey gravelly medium-coarse sand; moderate sorting; appears massive; 5-10% gravel up to 4-4 cms diameter; sands mainly dark minerals; non-calcareous; LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

21.0-23.0m -NOT RECOVERED; PROBABLY BOULDER PLUS TILL.

23.0-25.8m -same as from 19.9-21.0m; some washed or sorted sandy horizons at 25.2m; sharp lower contact: LABRADOREAN TILL.

25.8-29.0m -light grey, fine grained, foliated intermediate to felsic tuff to reworked tuff; scattered 1-5 mm quartz eyes: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-07-01	9.0	
F88-07-02	9.2	
F88-07-03	17.0	18.6
F88-07-04	18.6	19.9
F88-07-05	19.9	21.0
F88-07-06	23.0	24.6
F88-07-07	24.6	25.8

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-07-01	W	TILL	20.0	30.0	50.0	21.6	0.63
F88-07-02	W	TILL	34.0	21.0	45.0	28.7	0.72
F88-07-03	NE	TILL	66.5	24.5	9.0	6.2	0.91
F88-07-04	NE	TILL	60.5	34.5	5.0	2.4	0.26
F88-07-06	NE	TILL	59.0	34.0	7.0	2.2	0.31
F88-07-07	NE	TILL	76.0	21.0	3.0	1.0	1.43

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-07-03	NE	TILL	470	2.6	37.7	40.0	16.6	0.4	0.2	1.5	0.0	0.0	1.1
F88-07-04	NE	TILL	335	3.9	26.3	47.8	16.1	0.0	4.8	0.3	0.3	0.0	0.6
F88-07-05	NE	SAND	537	2.8	33.5	40.2	17.7	2.4	1.1	0.4	0.0	0.2	1.7
F88-07-06	NE	TILL	480	3.1	39.2	39.4	16.3	0.0	0.0	0.4	0.0	0.0	1.7
F88-07-07	NE	TILL	505	1.2	36.2	48.5	11.5	0.4	0.4	0.0	0.0	0.0	1.8

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-07-03	NE	TILL	15	32	15	2	3	11	20	1	T	T	1	T	T	1	RARE TRACE ARSENOPYRITE
F88-07-04	NE	TILL	14	27	17	4	3	6	25	T		2	2	T	T	T	
F88-07-05	NE	SAND	8	47	24	2	4	6	1	T	1	4	3			1	
F88-07-06	NE	TILL	9	38	28	1	1	8	10	T	T	3	2			5	
F88-07-07	NE	TILL	6	41	35	3	2	6	4			2	1			T	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F88-07-03	NE	TILL	10.2	3.0	7.2	200.5	163.6	36.9	30.4	6.5
F88-07-04	NE	TILL	11.5	2.8	8.7	260.6	219.5	41.1	34.8	6.3
F88-07-05	NE	SAND	9.8	3.5	6.3	323.3	315.0	8.3	8.1	0.2
F88-07-06	NE	TILL	9.9	2.7	7.2	215.9	182.2	33.7	27.3	6.4
F88-07-07	NE	TILL	10.3	2.8	7.5	302.1	269.8	32.3	28.9	3.4

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-07-03	25 X 25		1					1	EST. 25 % PYRITE
	25 X 50		3				1	4	TRACE ARSENOPYRITE
	25 X 75		1					1	2 GRAINS NATIVE COPPER
	50 X 50		1					1	
	50 X 75	1	1					2	
	75 X 75		1					1	
	75 X 150	2						2	
								12	
F88-07-04	50 X 50		1		1			2	EST. 25% PYRITE
	75 X 100	1						1	
								3	
F88-07-05	NO VISIBLE GOLD								
F88-07-06	50 X 100	1						1	EST. 10% PYRITE
	100 X 125	1						1	
								2	
F88-07-07	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-07-01G	1	4.0	0.3	3	0.2	23.9	15	59.8	28	75	8	358		
F88-07-02G	1	4.0	0.3	4	-0.1	23.3	15	59.0	24	82	7	288		
F88-07-03G	10	2.0	0.2	-1	-0.1	21.8	8	22.1	16	95	7	418		
F88-07-04G	4	3.0	0.2	-1	-0.1	25.7	6	21.8	18	127	7	410		
F88-07-06G	3	2.5	0.3	1	-0.1	28.8	6	26.0	37	175	10	396		
F88-07-07G	2	2.0	0.3	-1	-0.1	36.5	7	28.7	20	112	8	418		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-07-03H	250	343	155	2.6	2	0.3	197.2	22	60.0	129	291	203	46		
F88-07-04H	99	89	164	2.3	2	0.1	306.7	15	50.0	122	317	193	42		
F88-07-05H	85	117	5	0.6	1	-0.1	22.8	8	20.0	11	281	12	36		
F88-07-06H	140	260	302	3.5	2	-0.1	152.8	22	58	138	340	155	39		
F88-07-07H	61	95	32	1.1	-1	-0.1	51.3	10	24.0	24	425	31	51		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

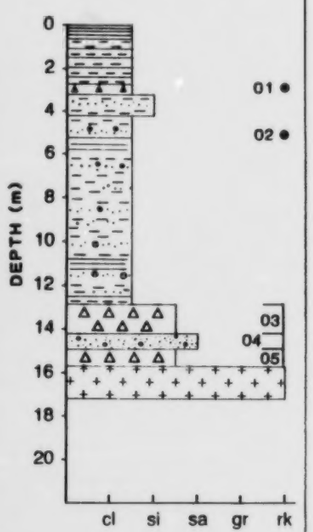
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-08

Township: Mather **Collar Elevation: 361 m**

UTM Coordinates: 5405000 m N 429250 m E

Graphic Log:



Descriptive Log:

0.0-0.6m -greyish-brown silty clay; grit and pebble-free; appears massive; non-calcareous; weathered; sharp lower contact: EMERSON PHASE GLACIO-LACUSTRINE CLAY.

0.6-1.5m -light buff gritty and pebbly silt and dark grey clay; rhythmically laminated; couplets 1-2 cms thick; clay laminae 0.5 cms thick; pebbles up to 1 cm diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED GRITTY GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

1.5-2.7m -mottled orangy-brown and light buff-brown silt and clay; grit and pebble-free; well laminated; well sorted; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

2.7-3.2m -brownish-grey clayey silt with some grits and pebbles; appears massive; poorly sorted; moderate density; calcareous; <5% clasts by volume; mainly subangular carbonate clasts; sharp lower contact; KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOW.

3.2-4.2m -mottled orangy-brown and light buff-brown silt and gritty, pebbly silt; crudely bedded; grit and pebble-free horizons and till-like layers; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERBEDDED WITH GLACIOLACUSTRINE SILT.

4.2-12.5m -dark grey clay, silty clay, gritty sandy silt, and silty clay with numerous grits and pebbles; well stratified; moderate-poor sorting; some of the clay layers have abundant intraclasts of glaciolacustrine silt; massive, till-like units are pebble-poor; pebbles up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED GLACIO-LACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

12.5-12.9m -light grey clayey silt and silty clay; disturbed by drill; grit and pebble-free; appears massive; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

12.9-14.2m -grey to greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; loose; non-calcareous; 35% clasts by volume; mainly subangular mafic extrusives, felsic-intermediate intrusives and extrusives, and schistose metagreywackes up to 4 cms diameter; sharp lower contact: LABRADOREAN TILL.

14.2-14.9m -grey, pebbly, medium-coarse sand; moderate sorting; appears massive; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

14.9-15.7m -same as from 12.9-14.2m; sharp lower contact: LABRADOREAN TILL.

15.7-17.2m -dark grey, fine grained, foliated, amphibolite grade greywacke; <1% pyrite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-08-01	2.9	
F88-08-02	5.1	
F88-08-03	12.9	14.2
F88-08-04	14.2	14.9
F88-08-05	14.9	15.7

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-08-01	W	TILL	20.5	30.5	49.0	29.2	0.63
F88-08-02	W	TILL	16.0	24.0	60.0	24.4	0.66
F88-08-03	NE	TILL	68.0	26.0	6.0	1.0	0.51

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-08-03	NE	TILL	470	0.4	29.4	18.5	24.7	0.0	25.3	1.3	0.0	0.0	0.4
F88-08-04	NE	SAND	614	1.8	35.2	48.5	10.9	0.0	1.4	0.8	0.0	0.0	1.3
F88-08-05	NE	TILL	460	2.8	25.9	47.6	6.1	0.2	15.9	0.2	0.0	0.0	1.3

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-08-03	NE	TILL	12	38	29	4	2	4	6	1		1	3		T	T	
F88-08-04	NE	SAND	15	38	14	8	2	7	8	1	T	3	4	T		2	
F88-08-05	NE	TILL	13	38	23	6	2	6	9			2	2	1	T	T	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-08-03	NE	TILL	5.9	1.2	4.7	189.9	174.3	15.6	13.0	2.6
F88-08-04	NE	SAND	6.6	2.4	4.2	184.6	165.1	19.5	16.2	3.3
F88-08-05	NE	TILL	6.1	3.1	3.0	155.6	130.7	24.9	20.5	4.4

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-08-03	50 X 50		1					1	EST. 15% PYRITE
	100 X 125		1					1	
								2	
F88-08-04	25 X 25		1					1	EST. 25% PYRITE
	75 X 100		1					1	
	100 X 100		2					2	
								4	
F88-08-05	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-08-01G	2	6.0	0.4	3	-0.1	22.0	21	56.0	19	63	5	326		
F88-08-02G	-1	4.5	0.3	4	-0.1	23.5	19	62.4	26	68	8	410		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-08-03H	170	71	135	2.0	2	-0.1	313.9	14	82.0	82	242	157	39		
F88-08-04H	240	221	393	4.0	4	0.6	298.2	24	74.0	110	237	200	61		
F88-08-05H	120	58	218	2.4	8	0.1	240.9	22	62.0	95	241	191	27		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

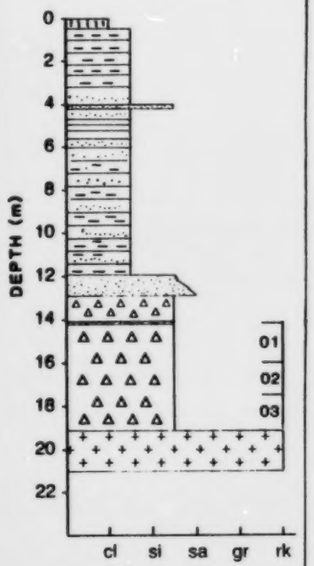
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-09

Township: Mather **Collar Elevation: 366 m**

UTM Coordinates: 5404900 m N 427750 m E

Graphic Log:



Descriptive Log:

0.0-0.5m -dark greyish-brown clay and silty clay; grit and pebble-free; weathered and oxidized; appears massive; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

0.5-11.9m -mottled orangy-brown, light buff brown, buff-grey grading to dark brownish-grey grit and pebble-free silt, clayey silt, and silty clay and gritty, pebbly clayey silt and silty clay; minor very fine sand; moderate-poor sorting; well bedded; some intraclasts of glacio-lacustrine silt up to 1 cm diameter between 5.2-11.9m; calcareous; pebbles up to 5 cms diameter; sharp lower contact: KEEWATIN-DERIVED GLACIO-LACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

11.9-12.9m -greenish-grey silty very fine sand grading to fine-medium sand; appears massive; moderate sorting; water saturated; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

12.9-19.1m -light grey silty very fine sand with numerous grits and pebbles; bed of sorted greenish-grey silty fine-medium sand with some small pebbles between 14.1-14.2m and 19.1-19.2m; rest of unit appears massive; poorly sorted; loose-moderate compaction; slightly calcareous; 20% clasts by volume; mainly subangular felsic-intermediate intrusives and extrusives, mafic extrusives, and metagreywackes up to 5 cms diameter; sharp lower contact: LABRADOREAN TILL.

19.1-21.0m -light grey, very fine grained felsic volcanic flow; slight carbonate on joints; quartz eyes; minor pyrite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-09-01	14.2	16.0			
F88-09-02	16.0	17.5			
F88-09-03	17.5	19.1			

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-09-01	NE	TILL	74.5	19.5	6.0	7.4	0.31
F88-09-02	NE	TILL	73.5	23.5	3.0	3.0	0.32
F88-09-03	NE	TILL	75.0	23.0	2.0	2.1	0.33

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-09-01	NE	TILL	438	3.2	25.8	44.7	9.6	1.4	13.5	0.5	0.0	0.0	1.4
F88-09-02	NE	TILL	290	14.8	30.3	26.6	20.7	0.0	6.2	0.7	0.0	0.0	0.7
F88-09-03	NE	TILL	396	4.5	24.0	47.5	23.2	0.0	0.0	0.3	0.0	0.0	0.5

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-09-01	NE	TILL	17	31	27	5	2	4	7		T	4	3	T		4	
F88-09-02	NE	TILL	6	29	34	1	5	12	9		T	2	2	T	T	2	
F88-09-03	NE	TILL	13	31	22	6	4	10	12	1		T	1			7	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-09-01	NE	TILL	11.5	3.8	7.7	248.9	209.1	39.8	32.6	7.2
F88-09-02	NE	TILL	10.3	2.3	8.0	253.4	211.0	42.4	34.1	8.3
F88-09-03	NE	TILL	12.7	2.2	10.5	310.9	260.3	50.6	39.5	11.1

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-09-01	25 X 50		1					1	EST. 20% PYRITE
	50 X 100	1						1	
								2	
F88-09-02	100 X 100		1					1	EST. 25% PYRITE
	100 X 150			1				1	
	125 X 125			1				1	
	125 X 325			1				1	
								4	
F88-09-03	25 X 50	1						1	EST. 20% PYRITE
	50 X 50		1					1	
	75 X 100	1						1	
								3	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-09-01G	10	2.0	0.3	-1	-0.1	17.3	8	21.6	13	84	6	282		
F88-09-02G	-1	2.5	0.3	-1	0.1	14.9	11	18.9	12	89	5	330		
F88-09-03G	-1	3.0	0.3	-1	-0.1	19.6	9	19.8	12	37	6	362		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-09-01H	99	109	113	1.9	1	-0.1	138.7	14	77.2	62	402	112	60		
F88-09-02H	250	257	173	2.7	1	-0.1	115.0	10	37.0	51	435	99	40		
F88-09-03H	160	101	208	3.0	1	-0.1	112.5	21	39.0	56	407	120	59		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

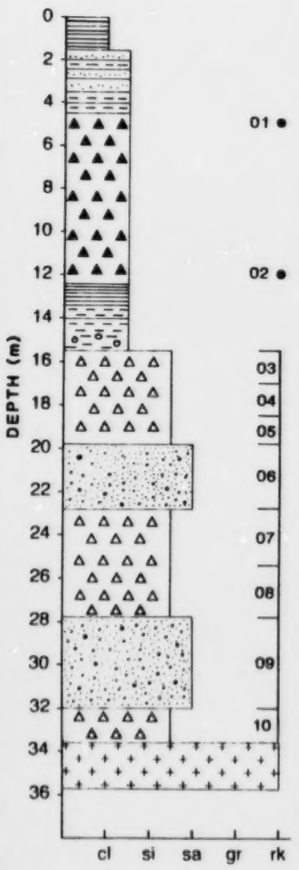
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-10

Township: Richardson **Collar Elevation:** 352 m

UTM Coordinates: 5409900 m N 421500 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -mottled orangy-brown, buff-brown, brownish-grey, and buff-grey clay, silty clay, and clayey silt; grit and pebble-free; well laminated; calcareous; some carbonate concretions present; sharp lower contact: EMERSON PHASE GLACIO-LACUSTRINE SILT AND CLAY.

1.5-4.5m -light buff brown silt, clayey silt, silty very fine sand with numerous grits and pebbles and dark grey clay; poor-moderate sorting; well bedded; numerous intraclasts of light pinkish-brown clay up to 1.5 cms diameter; calcareous; clasts up to 2 cms diameter; mainly carbonates and rotten crystalline lithologies; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

4.5-12.4m -dark grey silty clay with a few grits and pebbles; appears massive except for variations in grit and pebble content; some intraclasts of glaciolacustrine silt 1 cm diameter: poorly sorted; moderate density and compaction; <5% clasts by volume; mainly subangular carbonates up to 3 cms diameter; sharp lower contact: KEEWATIN TILL.

12.4-14.0m -dark brownish-grey grading to greyish-brown clay, silty clay, and clayey silt and gritty and pebbly clay; moderate sorting; well stratified; abundant intraclasts of glaciolacustrine silt up to 1 cm diameter; rhythmically laminated clayey silt and clay near base; calcareous; pebbles up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

14.0-15.5m -grey silty clay and clayey silt with some grits and pebbles and small cobbles; appears massive; moderate sorting; disturbed by drill; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY WITH DROPSTONES.

15.5-19.8m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density; variable compaction; slightly calcareous; 20% clasts by volume; mainly subangular felsic-intermediate intrusives and mafic extrusives up to 5 cms diameter; sharp lower contact: LABRADOREAN TILL.

19.8-22.8m -greenish-grey fine-medium sand with minor very fine sand; grit-free and very few pebbles; well sorted; horizontally bedded; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

22.8-27.8m -same as from 15.5-19.8m; mainly subangular felsic-intermediate extrusives and intrusives and mafic extrusives; sharp lower contact; LABRADOREAN TILL.

27.8-32.0m -same as from 19.8-22.8m; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

32.0-33.4m -same as from 22.8-27.8; sharp lower contact: LABRADOREAN TILL.

33.4-35.7m -well foliated to schistose mafic to intermediate porphyry (intrusive?): BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-10-01	4.9		F88-10-06	19.8	22.8
F88-10-02	12.0		F88-10-07	22.8	25.4
F88-10-03	15.5	17.0	F88-10-08	25.4	27.8
F88-10-04	17.0	18.5	F88-10-09	27.8	32.0
F88-10-05	18.5	19.8	F88-10-10	32.0	33.4

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-10-01	W	TILL	10.5	29.5	60.0	23.8	0.66
F88-10-02	W	TILL	5.5	31.5	63.0	23.7	0.61
F88-10-03	NE	TILL	65.5	27.5	7.0	4.2	0.40
F88-10-04	NE	TILL	61.5	30.5	8.0	4.2	0.38
F88-10-05	NE	TILL	70.0	25.0	5.0	3.5	0.32
F88-10-07	NE	TILL	81.0	15.0	4.0	2.6	0.31
F88-10-08	NE	TILL	64.0	28.0	8.0	3.7	0.41

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-10-03	NE	TILL	405	8.4	29.1	52.3	7.4	0.2	0.2	0.5	0.0	0.0	1.7
F88-10-04	NE	TILL	544	3.1	32.5	51.5	9.7	0.4	0.2	0.7	0.0	0.0	1.8
F88-10-05	NE	TILL	542	3.5	33.2	47.0	12.4	0.0	0.0	1.5	0.0	0.0	2.4
F88-10-06	NE	SAND	22	9.1	13.6	50.0	22.7	0.0	4.5	0.0	0.0	0.0	0.0
F88-10-07	NE	TILL	524	3.6	29.4	38.2	28.2	0.0	0.2	0.0	0.0	0.0	0.4
F88-10-08	NE	TILL	452	6.9	43.6	36.5	11.9	0.0	0.0	0.0	0.0	0.0	1.1
F88-10-09	NE	SAND	238	5.0	14.7	49.6	8.8	5.0	13.4	0.4	0.0	0.0	2.9
F88-10-10	NE	TILL	350	6.9	20.3	22.0	48.3	0.0	1.4	0.6	0.0	0.0	0.6

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-10-03	NE	TILL	20	45	11	5	2	9	4	2	1	T	1		T	8	
F88-10-04	NE	TILL	14	45	15	6	4	11	3	T	T	1	T	1	T	5	
F88-10-05	NE	TILL	19	34	15	9	5	12	5	T	1	T	T		T	7	
F88-10-06	NE	SAND	17	41	17	4	4	14	T	2	T	1	T			3	
F88-10-07	NE	TILL	17	44	9	4	6	13	6	1	T	T	T	T		7	
F88-10-08	NE	TILL	10	35	17	6	6	17	6	2	T	T	T	1	T	6	
F88-10-09	NE	SAND	23	34	16	3	1	9	12	1		T	1	T	T	8	
F88-10-10	NE	TILL	3	9	3	2		42	9	T	T				32	3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-10-03	NE	TILL	11.5	2.4	9.1	243.8	206.4	37.4	30.1	7.3
F88-10-04	NE	TILL	11.0	2.4	8.6	276.1	241.1	35.0	28.7	6.3
F88-10-05	NE	TILL	11.9	3.2	8.7	215.0	181.5	33.5	25.8	7.7
F88-10-06	NE	SAND	9.2	0.1	9.1	177.7	148.2	29.5	24.5	5.0
F88-10-07	NE	TILL	11.1	2.5	8.6	194.3	155.4	38.9	30.8	8.1
F88-10-08	NE	TILL	1.0	1.9	-0.9	246.7	210.8	35.9	28.3	7.6
F88-10-09	NE	SAND	11.0	1.2	9.8	342.8	264.3	78.5	61.5	17.0
F88-10-10	NE	TILL	8.1	3.0	5.1	223.9	207.2	16.7	14.8	1.9

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-10-03	25 X 50		1					1	EST. 20% PYRITE
	75 X 125		1					1	
	100 X 100		1					1	
	125 X 175	1						1	
								4	
F88-10-04	75 X 100		2					2	EST. 10% PYRITE
	75 X 125		1					1	
	100 X 100	1						1	
	150 X 150	1						1	
								5	
F88-10-05	75 X 100	1	1					2	EST. 20% PYRITE
	100 X 100		1					1	
	100 X 125	1						1	
								4	
F88-10-06	50 X 50					1		1	EST. 5% PYRITE
	50 X 75					1		1	
	75 X 75	1		1				2	
	75 X 100	1		1				2	
	100 X 100	1						1	
								7	
F88-10-07	25 X 25		1					1	EST. 25% PYRITE
	25 X 50						1	1	
	50 X 75		3					3	
	75 X 75		1					1	
	75 X 125					1		1	
	100 X 150	1						1	
								8	
F88-10-08	25 X 25		1					1	EST. 20% PYRITE
	25 X 50		1					1	
	50 X 75		1			1		2	
	75 X 100		1					1	
	225 X 250			1				1	
								6	
F88-10-09	50 X 50		3			1		4	EST. 10% PYRITE
	50 X 75					1	1	2	
	50 X 100						1	1	
	75 X 100	1						1	
	75 X 125					1		1	
	100 X 100	1		1				2	
	150 X 200	1						1	
	300 X 375	1						1	
								13	
F88-10-10	50 X 75		2					2	EST. 2% PYRITE
	50 X 100		1					1	1000 MARCASITE PELLETS
	75 X 100	1						1	
	100 X 125	1						1	
	200 X 250	1						1	
								6	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-10-01G	-1	4.5	0.4	4	-0.1	25.4	28	67.8	26	79	8	346		
F88-10-02G	-1	6.5	0.2	4	-0.1	25.6	19	69.8	29	93	7	378		
F88-10-03G	7	2.0	0.3	-1	0.3	24.2	9	32.0	18	31	8	266		
F88-10-04G	5	2.0	0.3	1	-0.1	24.9	10	34.7	18	64	8	242		
F88-10-05G	5	2.0	0.3	-1	-0.1	24.2	3	27.8	17	32	9	368		
F88-10-07G	2	2.5	0.2	-1	0.2	25.4	4	25.9	15	40	8	312		
F88-10-08G	-1	2.0	0.2	2	0.1	50.4	5	59.3	32	52	16	304		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-10-03H	300	115	96	1.7	1	-0.1	322.8	14	64.0	56	274	155	38		
F88-10-04H	450	849	79	1.5	1	0.3	194.5	14	51.0	45	321	117	86		
F88-10-05H	320	247	104	1.5	2	-0.1	197.3	10	54.0	43	426	118	27		
F88-10-06H	210	174	31	0.9	1	-0.1	76.6	9	31.0	17	436	30	38		
F88-10-07H	290	534	190	2.3	1	-0.1	182.1	13	45.0	54	337	139	110		
F88-10-08H	380	633	152	2.3	1	0.2	418.8	14	55.0	72	308	244	27		
F88-10-09H	546	1100	187	2.4	2	0.4	303.3	16	45.6	89	412	211	61		
F88-10-10H	1130	2255	90	1.5	4	-0.1	903.6	23	80.0	34	191	72	108		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

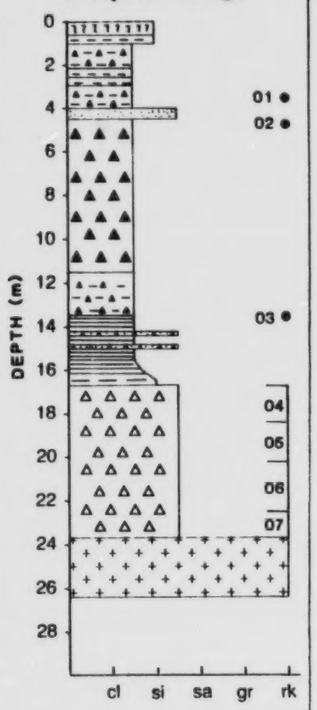
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-11

Township: Richardson **Collar Elevation:** 351 m

UTM Coordinates: 5409900 m N 424200 m E

Graphic Log:



Descriptive Log:

0.0-0.6m -TOPSOIL.

0.6-1.0m -light buff-brown to buff-grey silty clay, clayey silt, and silt; grit and pebble-free; well laminated; moderate sorting; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND CLAY.

1.0-2.2m -light buff-brown silty clay, clayey silt, and gritty, pebbly silt and sandy silt; appears massive; moderate-poor sorting; intraclasts of glaciolacustrine clay 0.5 cms diameter; mainly carbonate pebbles up to 0.5 cms diameter; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOWS.

2.2-4.5m -mottled orangy-brown, light buff-brown, and grey silty clay grading to very fine sand; grit and pebble-free; well sorted and stratified; four gritty, pebbly clayey silt layers each 10 cms thick separated by well laminated silt and clayey silt between 3.0-4.0m; rhythmically laminated sands, silts, and clays between 4.0-4.5m; couplets 0.5 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SAND, SILT, AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

4.5-11.5m -dark grey silty clay with a few grits and pebbles; appears massive; poorly sorted; dense and compact; some zones grittier than others; <3% clasts by volume; mainly carbonate pebbles up to 0.5 cms diameter; calcareous; sharp lower contact: KEEWATIN TILL.

11.5-13.5m -dark grey gritty, pebbly silty clay and grit-free clay; well bedded; moderate-poor sorting; numerous intraclasts of glaciolacustrine silt (1-2 mms diameter); grit-free clay layers are up to 5 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERBEDDED WITH GLACIOLACUSTRINE CLAY.

13.5-15.5m -dark grey clay with minor light buff-grey silty clay, clayey silt, and gritty sandy silt; well stratified; grittier and pebbly zones near base of unit; mainly carbonate pebbles up to 1.5 cms diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SILT INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

15.5-16.7m -rhythmically laminated dark grey clay and light greenish-grey silt grading to massive, grey silt; grit and pebble-free; couplets 0.5 cms thick; silt laminae up to 2-3 mms thick; silts are non-calcareous and clays are slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

16.7-22.3m -greenish-grey to olive-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; slightly calcareous; 20% subangular clasts by volume; mainly subangular felsic-intermediate extrusives, felsic-intermediate intrusives, and mafic extrusives up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

22.3-23.7m -interbedded weathered bedrock (mafic flow) and light greenish-grey silty very fine sand with numerous grits and pebbles; till layers similar to overlying unit; sharp lower contact: LABRADOREAN TILL.

23.7-26.4m -dark green, medium grained, crystalline, equigranular mafic flow; 15-20% pyrite aligned along the foliation: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-11-01	3.5	
F88-11-02	4.7	
F88-11-03	13.5	
F88-11-04	16.7	18.4
F88-11-05	18.4	20.2
F88-11-06	20.2	22.5
F88-11-07	22.5	23.7

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-11-01	W	TILL	30.0	39.0	31.0	37.6	0.57
F88-11-02	W	TILL	9.0	30.0	61.0	26.1	0.53
F88-11-03	W	TILL	6.5	26.5	67.0	24.2	0.59
F88-11-04	NE	TILL	66.0	27.0	7.0	3.9	0.51
F88-11-05	NE	TILL	63.5	31.5	5.0	2.5	0.68
F88-11-06	NE	TILL	65.0	30.0	5.0	2.2	0.40
F88-11-07	NE	TILL	58.5	37.5	4.0	1.9	0.41

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-11-04	NE	TILL	336	4.8	25.0	29.5	38.1	1.2	0.9	0.0	0.0	0.0	0.3
F88-11-05	NE	TILL	591	3.0	25.7	23.2	45.9	0.0	0.0	0.0	0.0	0.0	2.2
F88-11-06	NE	TILL	270	0.0	14.1	14.1	61.9	0.7	5.9	0.0	0.0	0.7	2.6
F88-11-07	NE	TILL	402	3.5	16.9	21.4	54.5	0.0	1.7	0.0	0.0	0.0	2.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-11-04	NE	TILL	11	27	10	6	2	14	23			1			6	8	
F88-11-05	NE	TILL	5	30	8	6	3	12	25	3		2		T	6	2	
F88-11-06	NE	TILL	14	19	9	6	1	7	29	T		1		1	13	7	
F88-11-07	NE	TILL	4	10	7	2		1	64	T				T	12	8	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-11-04	NE	TILL	11.8	4.0	7.8	198.7	155.1	43.6	37.6	6.0
F88-11-05	NE	TILL	10.1	2.5	7.6	262.7	218.5	44.2	39.2	5.0
F88-11-06	NE	TILL	10.5	3.0	7.5	244.7	181.1	63.6	59.0	4.6
F88-11-07	NE	TILL	9.5	2.8	6.7	301.5	180.9	120.6	114.4	6.2

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-11-04	25 X 25	1	5		1		3	10	EST. 60% PYRITE
	25 X 50		4		2		2	8	TRACE ASENOPYRITE
	50 X 50	1	1				1	3	NATIVE CU- 100 GRAINS
	50 X 75		1		4			5	AVG.SIZE 100X100 MICRONS
	50 X 100	1	1					2	
	75 X 125				1			1	
	100 X 125				1			1	
	100 X 175	1						1	
	225 X 275				1			1	
								32	
F88-11-05	25 X 25		6		9		6	21	EST. 60% PYRITE
	25 X 50		2		6		2	10	TRACE ARSENOPYRITE
	25 X 75				4		2	6	30 GRAINS NATIVE COPPER
	25 X 100				1			1	AVG. SIZE 75X75 MICRONS
	50 X 50	1			1			2	
	50 X 75				4		1	5	
	50 X 100				1			1	
	75 X 75		1					1	
	75 X 100		2					2	
	75 X 125				1			1	
	150 X 250			1				1	
								51	
F88-11-06	25 X 25		3		2		9	14	EST. 70% PYRITE
	25 X 50		2		7		6	15	20 GRAINS NATIVE COPPER
	25 X 75		2		1		1	4	AVG. SIZE 75X75 MICRONS
	50 X 50		2		2		5	9	0.25% ARSENOPYRITE
	50 X 75		1		6		4	11	
	50 X 100		3		4		3	10	
	50 X 125				2			2	
	75 X 75		1					1	
	75 X 100				1		2	3	
	75 X 125				1			1	
								70	
F88-11-07	25 X 25		2		6		8	16	EST. 80% PYRITE
	25 X 50		1		3		6	10	10 GRAINS NATIVE COPPER
	25 X 75				1			1	AVG. SIZE 75X75 MICRONS
	50 X 50		2		3		3	8	5 GRAINS CHALCOPYRITE
	50 X 75		1		5		1	7	10 GRAINS ARSENOPYRITE
	50 X 100		1		1		1	3	
	75 X 100				1		2	3	
	125 X 125				1			1	
								49	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-11-01G	-1	3.0	0.3	3	-0.1	15.5	11	38.5	17	29	6	322		
F88-11-02G	1	4.5	0.2	4	-0.1	22.7	15	64.9	25	49	8	406		
F88-11-03G	-1	5.0	0.2	4	0.2	24.1	15	66.3	26	35	8	386		
F88-11-04G	26	3.0	0.3	-1	-0.1	39.7	4	71.3	28	86	12	358		
F88-11-05G	56	6.5	0.2	-1	0.2	33.6	5	69.3	20	36	9	294		
F88-11-06G	68	7.5	0.5	-1	0.3	33.0	6	62.1	15	31	9	286		
F88-11-07G	47	5.0	0.4	-1	0.1	50.3	4	66.8	15	24	6	334		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-11-04H	1130	1440	508	5.7	3	2.2	1059.0	32	504.0	132	217	325	74		
F88-11-05H	1970	1843	1030	11.0	-1	2.9	681.9	42	791.0	130	142	271	91		
F88-11-06H	2310	2200	1560	14.0	1	4.3	777.4	39	1016.0	138	111	248	82		
F88-11-07H	2115	1404	659	4.0	-1	2.3	660.5	14	159.0	100	37	184	60		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

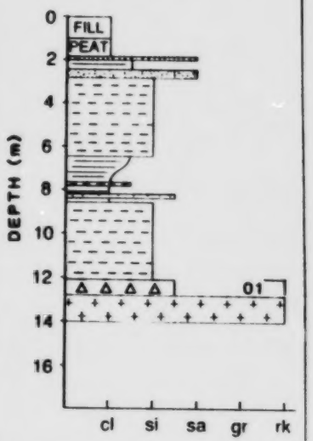
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-12

Township: Potts **Collar Elevation: 356 m**

UTM Coordinates: 5415450 m N 437300 m E

Graphic Log:



Descriptive Log:

0.0-1.0m -FILL.

1.0-1.9m -FIBROUS, PEATY GYTTJA.

1.9-2.0m -gritty, fine-medium sand; appears massive; poorly sorted; non-calcareous; sharp lower contact: MODERN ALLUVIUM.

2.0-2.8m -light greenish-grey silty clay and clayey silt grading to grey pebbly fine-coarse sand; upper clays appear faintly laminated, contain black organic streaks, and are slightly calcareous; sands are moderately sorted and contain abundant subangular carbonate pebbles; sharp lower contact: OLDER ALLUVIUM.

2.8-6.5m -light greenish-grey silt with minor sandy silt and silty clay; grit and pebble-free; faintly laminated; non-calcareous to very slightly calcareous; some black organic streaks present; sharp lower contact: LACUSTRINE SILT.

6.5-7.9m -dark brownish-grey silty clay and clay grading to light greenish-grey silt; grit and pebble-free; appears massive to very faintly laminated; dense and compact; slightly calcareous; sharp lower contact: LACUSTRINE CLAY AND SILT.

7.9-8.1m -rhythmically laminated dark greyish-brown clay and light greenish-grey silt; couplets 1 cm thick; clay laminae up to 0.5 cms thick; slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

8.1-8.5m -dark greyish-brown clay, light buff-brown gritty and slightly pebbly sandy silt, and light greenish-grey silt; moderately sorted; well stratified; calcareous; gritty layers contain abundant carbonate clasts; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

8.5-12.1m -light greenish-grey to light buff-brown silt and clayey silt with minor silty very fine sand; grit and pebble-free; well laminated; soft and smooth; moderately calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT.

12.1-12.8m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; 40% clasts by volume; mainly subangular-angular quartz-feldspar porphyry up to 7 cms diameter; sharp lower contact: LABRADOREAN TILL.

12.8-14.0m -medium grained, crystalline, equigranular high level felsic intrusive (synvolcanic?); 2% pyrite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-12-01	12.1	12.8			

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-12-01	NE	TILL	53.0	35.0	12.0	12.7	0.28

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-12-01	NE	TILL	617	0.0	0.3	97.9	1.5	0.0	0.0	0.3	0.0	0.0	0.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-12-01	NE	TILL	5	27	T	1		1	66							5	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-12-01	NE	TILL	9.1	4.5	4.6	144.9	103.9	41.0	40.7	0.3

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-12-01	NO VISIBLE GOLD								EST. 80% PYRITE

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-12-01G	4	1.0	0.2	11	0.4	67.3	7	30.3	20	45	10	486		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-12-01H	78	52	12	0.4	2	0.5	503.8	8	9.0	105	24	198	51		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

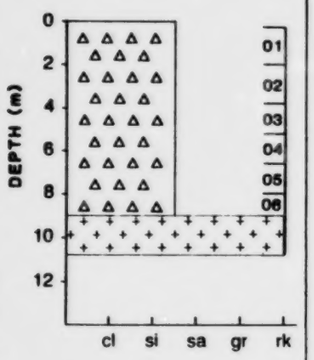
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-13

Township: Potts **Collar Elevation:** 358 m

UTM Coordinates: 5415150 m N 437550 m E

Graphic Log:



Descriptive Log:

0.0-2.0m -mottled dark orangy-brown and greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; heavily weathered; moderate density and compaction; non-calcareous; 20% clasts by volume; mainly subangular quartz feldspar porphyry and mafic extrusives up to 5 cms diameter; gradational lower contact: LABRADOREAN TILL.

2.0-9.0m -same as from 0.0-2.0m; grades to greenish-grey; felsic-intermediate extrusives and intrusives increase slightly downward; sharp lower contact: LABRADOREAN TILL.

9.0-10.8m -white, fine grained, moderately silicified felsic flow, sugary texture, quartz eyes, 5-10% disseminated pyrite; quartz veinlets: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-13-01	0.3	2.0
F88-13-02	2.0	3.8
F88-13-03	3.8	5.2
F88-13-04	5.2	6.6
F88-13-05	6.6	8.0
F88-13-06	8.0	9.0

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-13-01	NE	TILL	79.0	16.0	5.0	0.9	0.63
F88-13-02	NE	TILL	75.5	31.5	3.0	0.9	0.63
F88-13-03	NE	TILL	66.5	27.5	6.0	1.2	0.59
F88-13-04	NE	TILL	68.5	26.5	5.0	1.5	0.87
F88-13-05	NE	TILL	75.5	19.5	5.0	1.0	0.25
F88-13-06	NE	TILL	72.5	22.5	5.0	1.4	0.43

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-13-01	NE	TILL	470	0.4	10.6	81.5	2.6	0.0	2.1	0.0	0.0	0.0	2.8
F88-13-02	NE	TILL	445	0.0	0.4	99.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4
F88-13-03	NE	TILL	574	0.0	0.2	99.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2
F88-13-04	NE	TILL	440	0.0	9.1	83.6	3.2	0.0	2.7	0.0	0.0	0.5	0.9
F88-13-05	NE	TILL	413	5.3	9.2	68.8	14.0	0.0	1.2	0.0	0.5	0.0	1.0
F88-13-06	NE	TILL	548	0.9	11.3	76.8	7.8	0.2	2.0	0.0	0.0	0.0	0.9

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-13-01	NE	TILL	9	62	17	3	2	7	T	T	T	T	T	T		6	
F88-13-02	NE	TILL	7	16	16	1	1	2	55	2	T					7	PYRITE INCLUDES 13% CHALCOPYR.
F88-13-03	NE	TILL	5	19	14	4		2	56							9	PYRITE INCLUDES 8% CHALCOPYR.
F88-13-04	NE	TILL	5	16	14	6		4	53	1		T	1				PYRITE INCLUDES 5% CHALCOPYR.
F88-13-05	NE	TILL	10	21	29	5	1	6	28	T		T	T			8	
F88-13-06	NE	TILL	6	16	10	7	1	9	46	2		2		1		6	TRACE CHALCOPYRITE

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-13-01	NE	TILL	9.2	4.3	4.9	336.5	312.2	24.3	19.3	5.0
F88-13-02	NE	TILL	9.5	5.5	4.0	313.0	227.0	86.0	84.5	1.5
F88-13-03	NE	TILL	9.7	4.3	5.4	310.7	216.1	94.6	92.6	2.0
F88-13-04	NE	TILL	10.2	4.7	5.5	298.8	236.8	62.0	57.9	4.1
F88-13-05	NE	TILL	11.0	3.8	7.2	288.6	205.5	83.1	76.2	6.9
F88-13-06	NE	TILL	8.8	3.5	5.3	219.4	157.9	61.5	57.0	4.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-13-01	NO VISIBLE GOLD								
F88-13-02	25 X 25				2			2	EST. 75% PYRITE
	50 X 50				2			2	TRACE ARSENOPYRITE CRYSTALS
								4	
F88-13-03	25 X 50				1		2	3	EST. 75% PYRITE
	50 X 50				1			1	TRACE ARSENOPYRITE CRYSTALS
	75 X 75				1			1	TRACE CHALCOPYRITE
								5	
F88-13-04	25 X 25				1			1	EST. 60% PYRITE
	25 X 50				2			2	TRACE ARSENOPYRITE
	50 X 50						1	1	
	325 X 375	1						1	
								5	
F88-13-05	25 X 25				2		1	3	EST. 60% PYRITE
	25 X 50						1	1	TRACE ARSENOPYRITE
	75 X 150	1						1	
	100 X 125			1				1	
	150 X 250	1						1	
								7	
F88-13-06	50 X 75		1					1	EST. 75% PYRITE
	225 X 225	1						1	
								2	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-13-01G	25	4.0	0.3	7	-0.1	195.0	9	50.2	81	401	11	410		
F88-13-02G	42	1.0	0.3	6	2.1	1052.0	4	30.1	24	40	7	438		
F88-13-03G	28	1.5	0.2	5	1.3	1880.0	7	39.6	34	44	9	552		
F88-13-04G	20	2.0	0.3	3	0.4	342.0	6	36.2	26	43	9	390		
F88-13-05G	4	3.5	0.3	2	0.1	189.2	7	51.3	38	63	14	428		
F88-13-06G	4	2.0	0.3	3	0.2	219.4	5	61.6	37	150	13	522		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-13-01H	230	306	6	1.4	3	-0.1	115.6	9	17.0	13	451	12	42		
F88-13-02H	340	215	41	1.5	1	3.3	14335	24	24.0	130	65	86	25		
F88-13-03H	410	300	36	1.1	-1	2.9	20000+	16	30.0	110	42	78	54		
F88-13-04H	675	147	138	2.1	2	0.6	7049.5	20	38.0	129	120	115	25		
F88-13-05H	220	120	154	2.2	2	0.7	838.9	16	108.0	126	193	157	46		
F88-13-06H	220	49	147	1.4	2	1.2	1647.9	18	34.0	143	159	168	42		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

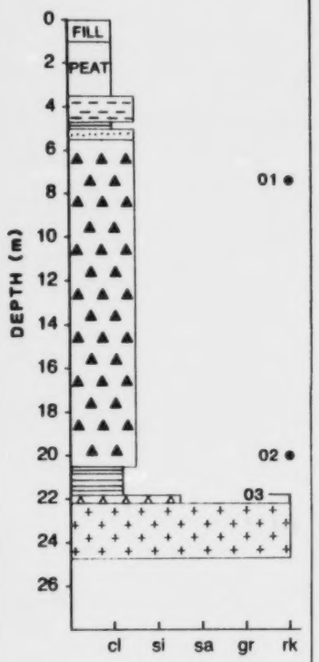
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-14

Township: Dobie **Collar Elevation: 355 m**

UTM Coordinates: 5392000 m N 432600 m E

Graphic Log:



Descriptive Log:

0.0-1.0m -FILL.

1.0-3.5m -PEAT.

3.5-4.7m -buff-grey, organic-rich clayey silt; grit and pebble-free; appears massive; non-calcareous; some fine plant detritus; sharp lower contact: LACUSTRINE SILT.

4.7-5.0m -dark steel grey clay and light greenish-grey silty clay; grit and pebble-free; appears massive to faintly laminated; non-calcareous; sharp lower contact: LACUSTRINE CLAY.

5.0-5.5m -dark grey clay and greyish-brown silty clay with a few grits and pebbles; faintly laminated; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

5.5-20.5m -light brownish-grey grading to dark grey silty clay with numerous grits and pebbles; appears massive; poor sorting; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded carbonates up to 1.5 cms diameter; one crystalline cobble 5 cms diameter at 7.5m; sharp lower contact: KEEWATIN TILL.

20.5-21.8m -dark brownish-grey clay with a few grits and grey grit-free silty clay with no grits; poorly sorted; massive to faintly laminated; numerous intraclasts of glaciolacustrine silt up to 1-2 mms diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILTY CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

21.8-22.2m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density; loose; non-calcareous; 10% clasts by volume; mainly subangular felsic-intermediate intrusives and mafic extrusives up to 3 cms diameter; sharp lower contact: LABRADOREAN TILL.

22.2-24.7m -light grey to pinkish, medium grained, equigranular hornblende granodiorite to trondhjemite; hornblende crystals and clots rimmed with epidote: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-14-01	7.5	
F88-14-02	20.0	
F88-14-03	21.8	22.2

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-14-01	W	TILL	18.5	27.5	54.0	26.0	0.67
F88-14-02	W	TILL	21.0	27.0	52.0	28.2	0.68

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-14-03	NE	TILL	462	0.9	14.1	78.8	6.1	0.2	0.0	0.0	0.0	0.0	0.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-14-03	NE	TILL	3	56	23	4	4	4	1		3	2	T	T		3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-14-03	NE	TILL	6.6	1.8	4.8	152.9	135.0	17.9	14.4	3.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-14-03	25 X 50				1			1	EST. 3% PYRITE
	175 X 275	1						1	20 GRAINS ARSENOPYRITE 1 GRAIN NATIVE Cu 325 x 475 MICRONS
								2	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-14-01G	-1	4.0	0.3	3	-0.1	23.0	11	54.8	25	80	8	474		
F88-14-02G	-1	4.0	0.2	4	-0.1	23.4	12	58.1	26	61	7	400		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-14-03H	1090	140	184	2.6	5	0.3	145.0	28	51.0	37	329	82	114	-6	4

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

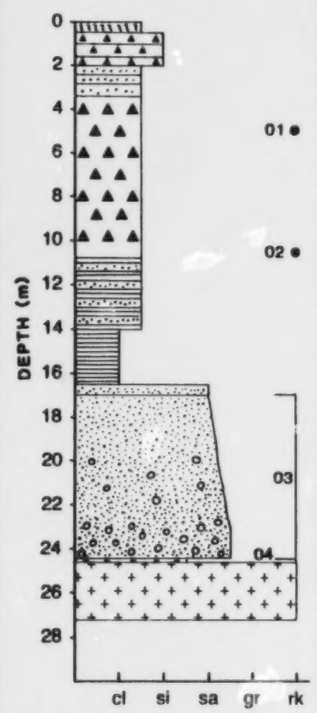
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-14-03M	-5	-7	3	1.0	8		36.7	11	53.5	68	2180	201	46	-35	-7

Sonic Borehole Number: F88-15

Township: Dobie **Collar Elevation:** 354 m

UTM Coordinates: 5397350 m N 432500 m E

Graphic Log:



Descriptive Log:

0.0-0.5m -TOPSOIL.

0.5-2.0m -rhythmically laminated mottled light orangy-brown and buff-brown silt with numerous grits and pebbles and dark greyish-brown clay; couplets 1.0m thick; clay laminae 0.5 cms thick; calcareous; mainly carbonate pebbles up to 1.5 cms diameter; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

2.0-3.4m -light buff-grey silt, clay, and gritty and pebbly silt; well stratified; moderate-poor sorting; calcareous; mainly carbonate clasts; minor siltstone, shale, and lignite; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

3.4-10.8m -mottled greyish-brown and brown grading to dark grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded carbonates up to 1 cm diameter; sharp lower contact: KEEWATIN TILL.

10.8-14.0m -dark grey clay with very few grits and pebbles, grey clayey silt with numerous grits and pebbles, light buff silt, and dark grey clay; well laminated; moderate-poor sorting; mainly carbonate pebbles up to 0.5 cms diameter; some intraclasts of glaciolacustrine silt up to 1-2 mms diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

14.0-16.5m -rhythmically laminated dark grey clay with minor silt grading to light grey silt with minor clay; couplets 3-10 cms thick; silt layers increase from 1-2 mms thick to 8-9 cms thick; moderately calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

16.5-24.5m -grey very fine sand grading to sandy gravel; well stratified; moderate sorting; non-calcareous; sandy gravel contains predominantly medium-fine sand; subrounded cobbles up to 10 cms diameter; mainly felsic-intermediate intrusives; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

24.5-24.6m -grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; slightly calcareous; 15% clasts by volume; mainly subangular felsic-intermediate intrusives and schists and gneisses (greywackes) up to 7 cms diameter; sharp lower contact: LABRADOREAN TILL.

24.6-27.2m -dark grey, fine grained, well foliated, dense, massive to banded with garnet, highly metamorphosed sediment; sugary texture; hornblende greater than biotite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-15-01	5.0	
F88-15-02	10.5	
F88-15-03	17.0	24.5
F88-15-04	24.5	24.6

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-15-01	W	TILL	17.5	28.5	54.0	26.3	0.71
F88-15-02	W	TILL	16.5	27.5	56.0	25.3	0.68

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-15-03	NE	SAND	311	2.6	1.3	80.4	0.3	8.0	5.8	1.0	0.0	0.0	0.6
F88-15-04	NE	TILL	239	1.3	1.7	49.4	0.4	44.4	2.9	0.0	0.0	0.0	0.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-15-03	NE	SAND	11	27	37	6	T	8	6		T	4	1	T		T	
F88-15-04	NE	TILL	13	37	34	2	1	5	6		T	1	1		T	4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-15-03	NE	SAND	10.9	1.2	9.7	228.5	168.5	60.0	44.8	15.2
F88-15-04	NE	TILL	2.9	0.8	2.1	79.6	73.7	5.9	4.9	1.0

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-15-03	50 X 175	1						1	EST. 2% PYRITE
	75 X 75	1						1	
								2	

F88-15-04 NO VISIBLE GOLD

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-15-01G	-1	5.0	0.3	3	-0.1	22.8	11	58.6	26	72	8	428		
F88-15-02G	2	4.0	0.3	3	-0.1	24.8	12	67.8	29	67	10	374		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-15-03H	83	220	108	1.2	3	-0.1	134.8	23	25.0	43	407	108	69		
F88-15-04H	503	580	51	0.8	29	0.8	268.4	21	29.0	116	360	135	61		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

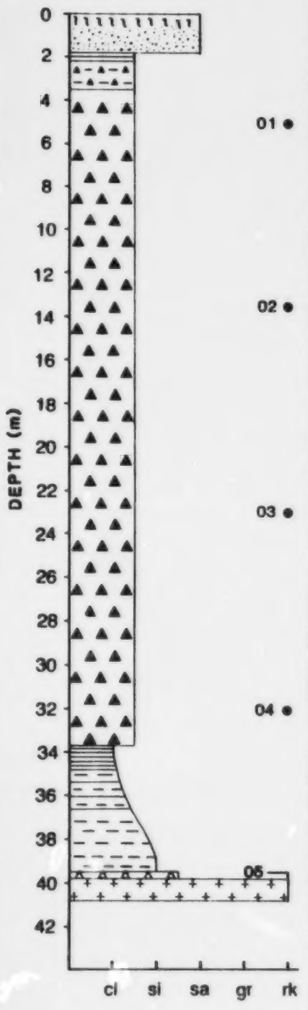
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-16

Township: Carpenter **Collar Elevation:** 345 m

UTM Coordinates: 5390150 m N 440850 m E

Graphic Log:



Descriptive Log:

0.0-1.8m -light buff fine-medium sand with a few pebbles; moderately sorted; massive-faintly stratified; pebbles up to 0.5 cms diameter; slightly calcareous; mainly quartz-rich sand; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SAND.

1.8-2.2m -light buff brown clayey silt and silty clay and dark grey clay; grit and pebble-free; well sorted; horizontally laminated; calcareous; sharp lower contact: EMERSON PHASE GLACIO-LACUSTRINE CLAY.

2.2-3.5m -mottled orangy-brown, greyish-brown, and brownish-grey clay, silty clay, and gritty and pebbly silty very fine sand and sandy silt; well stratified; moderate-poor sorting; calcareous; mainly carbonate pebbles up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED GLACIO-LACUSTRINE CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

3.5-33.7m -dark greyish-brown grading to dark grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; very smooth and plasticity; numerous intraclasts of glaciolacustrine silt and clay (1-2 mms diameter); calcareous; <5% clasts by volume; mainly subrounded carbonate clasts up to 3 cms diameter; sharp lower contact: KEEWATIN TILL.

33.7-39.5m -dark grey clay with minor silt grading to light greenish-grey clayey silt and silt with minor clay; grit and pebble-free; rhythmically laminated grading to well laminated; moderately calcareous grading to slightly calcareous; sharp lower contact: KEEWATIN-DERIVED GRADING TO LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

39.5-39.8m -dark greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate-strong compaction; moderate density; slightly calcareous; 20% clasts by volume; mainly subangular-angular felsic-intermediate intrusives, mafic extrusives, and felsic-intermediate extrusives up to 5 cms diameter; sharp lower contact: LABRADOREAN TILL.

39.8-40.8m -dark grey, medium grained metasediment; amphibolite grade metamorphism; hornblendes along foliation planes; <5% pyrite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-16-01	5.0				
F88-16-02	13.5				
F88-16-03	23.0				
F88-16-04	32.0				
F88-16-05	39.5	39.8			

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-16-01	W	TILL	16.5	28.5	55.0	27.4	0.68
F88-16-02	W	TILL	17.0	30.0	53.0	28.2	0.70
F88-16-03	W	TILL	17.0	33.0	50.0	28.4	0.65
F88-16-04	W	TILL	9.0	31.0	60.0	26.1	0.72
F88-16-05	NE	TILL	59.0	32.0	9.0	3.1	0.75

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-16-05	NE	TILL	269	3.0	24.5	49.1	19.3	0.7	3.0	0.0	0.0	0.0	0.4

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-16-05	NE	TILL	10	31	21	10	1	10	12	T		3	3	T	T	1	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-16-05	NE	TILL	9.4	2.4	7.0	182.3	148.4	33.9	21.5	12.4

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-16-05	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-16-01G	1	6.0	0.2	4	-0.1	25.7	13	69.8	25	86	8	412		
F88-16-02G	7	5.0	0.3	3	-0.1	25.2	12	56.6	26	59	8	380		
F88-16-03G	2	4.0	0.2	3	-0.1	24.1	13	60.9	24	52	8	390		
F88-16-04G	3	5.5	0.3	4	0.4	24.1	13	61.9	25	62	8	544		
F88-16-05G	5	2.0	0.3	-1	0.1	27.9	4	43.6	25	73	10	566		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-16-05H	140	89	198	3.2	4	0.2	287.4	29	344.0	91	228	162	316		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

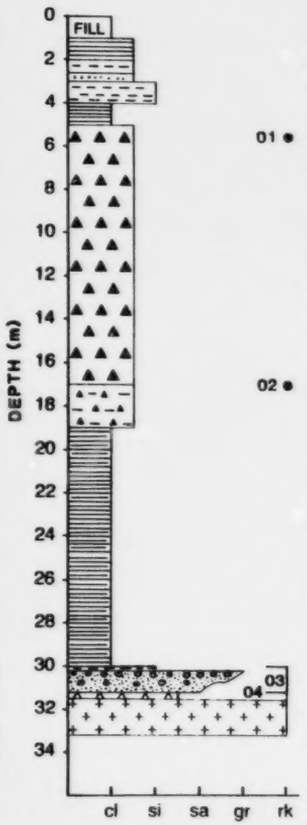
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-17

Township: Dobie **Collar Elevation:** 341 m

UTM Coordinates: 5388550 m N 429950 m E

Graphic Log:



Descriptive Log:

0.0-1.0m -FILL.

1.0-2.0m -mottled orangy-brown and grey clay and silty clay; grit and pebble-free; faintly laminated; slightly calcareous (leached); one thin layer of red clay at 1.9m (2 cms thick); sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

2.0-3.0m -mottled orangy-brown and buff grey clay to silty very fine sand; grit and pebble-free; well laminated; moderately calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SAND, SILT, AND CLAY.

3.0-4.0m -light buff-orange and buff brown silt; grit and pebble-free; well sorted; appears massive; slightly calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT.

4.0-5.0m -dark grey clay grading to silty clay; grit and pebble-free; faintly laminated; slightly calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

5.0-17.0m -grey silty clay with numerous grits and pebbles; poorly sorted; appears massive; dense and compact; calcareous; <5% clasts by volume; mainly subangular-subrounded carbonate clasts up to 3 cms diameter; sharp lower contact: KEEWATIN TILL.

17.0-30.0m -dark grey and greenish-grey clay, silty clay, clayey silt, silt, and clayey silt with numerous grits and pebbles; rhythmically laminated gritty clayey silt, clay, and minor silt between 17.0-19.0m; couplets 7-10 cms thick; numerous intraclasts of glaciolacustrine silt (1 cm diameter) between 17.0-20.0m; rhythmically laminated clay and silt between 19.0-30.0m; couplets 4-5 cms thick; silt laminae 0.5 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERBEDDED WITH GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

30.0-30.1m -grey silt; appears massive; well sorted; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT.

30.1-31.2m -gravelly medium-coarse sand grading to medium-coarse sand; moderate sorting; crudely bedded; sand grains subangular-angular; non-calcareous; mainly subangular felsic-intermediate intrusive and mafic extrusive clasts up to 4 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL.

31.2-31.5m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density; moderate-strong compaction; non-calcareous; 60% clasts by volume; mainly angular felsic-intermediate extrusives and intrusives and mafic extrusives up to 8 cms diameter; sharp lower contact; LABRADOREAN TILL.

31.5-33.2m -dark grey, massive, dense, intermediate-mafic tuff; amphibolite grade metamorphism: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-17-01	5.5	
F88-17-02	17.0	
F88-17-03	30.0	31.2
F88-17-04	31.2	31.5

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-17-01	W	TILL	20.0	29.0	51.0	28.4	0.73
F88-17-02	W	TILL	25.0	29.0	46.0	28.6	0.61
F88-17-04	NE	TILL	53.0	39.0	8.0	2.0	0.26

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-17-03	NE	SAND	493	4.7	16.0	68.0	8.7	0.4	1.6	0.2	0.0	0.0	0.4
F88-17-04	NE	TILL	432	3.7	20.4	20.4	52.3	0.0	0.7	0.0	0.2	0.0	2.3

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-17-03	NE	SAND	11	37	34	5		6	3	T		3	1		T	2	
F88-17-04	NE	TILL	9	42	31	1	2	8	1		1	4	1			3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-17-03	NE	SAND	10.9	3.8	7.1	298.4	280.0	18.4	13.8	4.6
F88-17-04	NE	TILL	10.1	4.2	5.9	179.4	160.2	19.2	15.6	3.6

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-17-03	NO VISIBLE GOLD								
F88-17-04	125 X 225	1						1	EST. 2% PYRITE
								1	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-17-01G	9	4.0	0.3	4	-0.1	21.6	12	56.8	24	34	8	420		
F88-17-02G	6	4.0	0.3	3	0.1	19.9	12	52.5	24	45	7	414		
F88-17-04G	2	2.0	0.2	-1	0.3	29.6	4	41.1	23	69	7	507	-5	-1

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-17-03H	44	26	225	2.9	4	-0.1	200.2	26	76.7	47	342	106	41	-7	3
F88-17-04H	280	545	114	1.2	3	-0.1	265.6	17	28.4	39	581	48	126	7	5

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

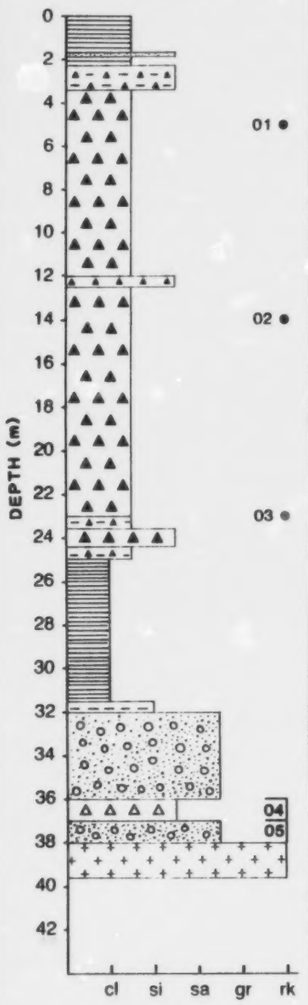
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-17-03M	-5	11	7	1.1	2		46.7	13	56.6	56	1490	31	38	32	-5
F88-17-04M	-5	12	7	1.6	40		80.6	11	51.0	93	2140	199	33	35	-6

Sonic Borehole Number: F88-18

Township: Dobie **Collar Elevation:** 344 m

UTM Coordinates: 5390350 m N 429900 m E

Graphic Log:



Descriptive Log:

0.0-2.3m -light buff-brown to dark grey silty clay and clayey silt with minor very fine sand; grit and pebble-free; massive to well laminated; calcareous; some carbonate concretions near surface; thin layer of slightly gritty very fine sand at 1.9m; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND CLAY.

2.3-3.4m -mottled light orangy-brown and light greyish-brown sandy silt with numerous grits and pebbles and minor dark grey clay; moderate-poor sorting; some stratification present; numerous intraclasts of glaciolacustrine clay (1 cm diameter); calcareous; mainly subrounded carbonate pebbles up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

3.4-23.0m -mottled orangy-brown and brownish-grey grading to dark grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; dense and compact; some intraclasts of glacio-lacustrine silt and gritty silty very fine sand (1-2 mms diameter); calcareous; coarser sandy silt zone from 12.0-12.5m; <5% clasts by volume; mainly subrounded carbonate clasts up to 2.5 cms diameter; sharp lower contact: KEEWATIN TILL.

23.0-25.0m -well bedded dark grey silty clay with light buff intraclasts of glaciolacustrine silt and sandy silt and grey sandy silt with numerous grits and pebbles; moderate-poor sorting; calcareous; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOWS.

25.0-31.5m -dark grey clayey silt and silty clay and light greenish-grey silt; very few grits and pebbles; rhythmically laminated from 25.0-26.0m and 30.5-31.5m; mainly massive clay from 26.0-30.5m; dropstones up to 3 cms diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

31.5-32.0m -light greenish-grey silt with minor dark grey clay; grit and pebble-free; well laminated; moderate sorting; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT.

32.0-36.0m -gravelly and pebbly fine-medium sand; moderate sorting; appears massive; non-calcareous; mainly subrounded clasts up to 3 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

36.0-37.0m -light greenish-grey silty very fine sand with numerous grits and pebbles; silt content decreases downwards; appears massive; poorly sorted; moderate density and compaction; slightly calcareous; 20% clasts by volume; mainly felsic-intermediate intrusives, extrusives, and mafic extrusives up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

37.0-38.0m -grey sandy, pebble gravel; massive; moderate sorting; mainly subangular felsic-intermediate intrusives and mafic extrusives up to 10 cms diameter; sharp lower contact; LABRADOREAN-DERIVED GLACIOFLUVIAL GRAVEL.

38.0-39.6m -massive, fine grained, foliated, crystalline, equigranular, intermediate-mafic flow; lineated hornblendes; epidote veinlets with K-altered borders: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-18-01	5.0	
F88-18-02	14.0	
F88-18-03	23.0	
F88-18-04	36.0	37.0
F88-18-05	37.0	38.0

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-18-01	W	TILL	16.0	31.0	53.0	26.1	0.63
F88-18-02	W	TILL	22.0	28.0	50.0	28.3	0.66
F88-18-03	W	TILL	15.0	30.0	55.0	25.7	0.63
F88-18-04	NE	TILL	74.0	21.0	5.0	2.8	0.77

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-18-04	NE	TILL	350	4.3	14.6	66.6	13.4	0.0	0.9	0.0	0.0	0.0	0.3
F88-18-05	NE	TILL	430	6.5	19.1	60.7	7.4	1.6	4.7	0.0	0.0	0.0	0.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-18-04	NE	TILL	17	33	24	3	2	11	7		1	2	1		T	T	
F88-18-05	NE	TILL	13	46	23	3		5	6		1	2	1	T	T	T	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-18-04	NE	TILL	12.3	4.5	7.8	222.7	190.5	32.2	22.7	9.5
F88-18-05	NE	TILL	6.5	3.5	3.0	227.0	198.3	28.7	22.2	6.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-18-04	25 X 25		2					2	EST. 5% PYRITE
	75 X 100		2					2	TRACE ARSENOPYRITE
	100 X 200		1					1	NATIVE Cu 75X150 MICRONS
	200 X 375	1						1	
								6	
F88-18-05	25 X 25		1					1	EST. 3% PYRITE
	25 X 50		1					1	2 GRAINS NATIVE COPPER
	75 X 75	1						1	
	75 X 100	1						1	
	100 X 200	1						1	
								5	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-18-01G	6	4.0	0.3	4	-0.1	22.2	10	61.2	25	57	7	398		
F88-18-02G	18	4.0	0.3	3	0.2	21.2	11	54.7	25	52	8	452		
F88-18-03G	3	4.0	0.3	3	-0.1	18.3	12	50.6	22	102	8	485		
F88-18-04G	5	4.0	0.2	-1	-0.1	18.1	3	26.9	18	73	7	580	-5	-1

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-18-04H	280	895	417	3.4	4	-0.1	163.0	28	45.8	60	363	118	118	-8	3
F88-18-05H	150	92	462	2.2	5	-0.1	134.1	21	36.8	39	324	83	121	-9	-2

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

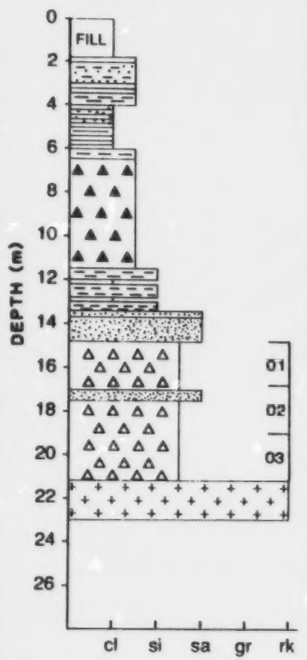
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-18-04M	1310	2788	12	1.8	57		83.2	13	42.7	85	2190	91	33	-11	-2
F88-18-05M	7	15	12	1.8	73		110.7	13	42.9	108	2180	49	33	-19	-4

Sonic Borehole Number: F88-19

Township: Patullo **Collar Elevation:** 340 m

UTM Coordinates: 5405400 m N 413100 m E

Graphic Log:



Descriptive Log:

0.0-1.8m -FILL.

1.8-2.0m -orangy-brown silty clay; oxidized and weathered; grit and pebble-free; appears massive; non-calcareous (leached); sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

2.0-3.0m -light buff-grey clayey silt with some sand; grit and pebble-free; appears massive; moderate sorting; calcareous; some carbonate concretions; sharp lower contact: EMERSON PHASE GLACIO-LACUSTRINE SILT.

3.0-4.0m -steel grey silty clay to clayey silt with minor very fine sand; grit and pebble-free; appears massive; moderate sorting; non-calcareous; slightly finer than overlying unit; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY AND SILT.

4.0-5.0m -grey sandy clay; gap graded; appears massive; poorly sorted; grit and pebble-free; non-calcareous; sharp lower contact: MOORHEAD PHASE ALLUVIUM.

5.0-6.0m -grey clay with minor silt; grit and pebble-free; faintly laminated; calcareous; very smooth and plasticity; sharp lower contact: LOCKHART PHASE GLACIOLACUSTRINE CLAY.

6.0-6.5m -light grey clayey silt with minor very fine sand; a few grits and pebbles; appears massive; moderate sorting; plasticity; calcareous; mainly carbonate pebbles up to 3 cms diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT.

6.5-11.5m -grey silty clay with a few grits and pebbles; appears massive; poorly sorted; soft and plasticity; calcareous; <5% clasts by volume; mainly subrounded-subangular carbonate clasts up to 3 cms diameter; sharp lower contact: KEEWATIN TILL.

11.5-13.7m -dark greyish-brown clay and light greenish-grey silt and very fine sand; grit and pebble-free; well laminated; moderate sorting; massive clay beds up to 10 cms thick; massive silt beds up to 20 cms thick; some thin laminae of very fine sand near base; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

13.7-14.8m -grey to greenish-grey silty very fine sand to fine-medium sand; small pebbles and grits near top of unit; well sorted; crudely bedded; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SAND.

14.8-21.2m -greenish-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive except for one bed of sorted medium-coarse sand with some pebbles between 17.0-17.5m; moderate density and compaction to dense and compact; slightly calcareous; 15% clasts by volume; mainly subangular felsic-intermediate extrusives and intrusives and mafic extrusives up to 8 cms diameter; mafic extrusives increase downward; sharp lower contact: LABRADOREAN TILL.

21.2-23.0m -dark to light green and red, variegated, silicified; sheared rock (possible intermediate protolith); sericitic and chloritic seams: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-19-01	14.8	16.8			
F88-19-02	16.8	19.0			
F88-19-03	19.0	21.2			

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-19-01	NE	TILL	51.0	39.0	10.0	2.1	0.54
F88-19-02	NE	TILL	67.0	27.0	6.0	2.6	0.52
F88-19-03	NE	TILL	71.0	26.0	3.0	2.6	0.63

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-19-01	NE	TILL	341	4.4	11.4	30.5	45.2	0.0	7.0	0.0	0.0	0.0	1.5
F88-19-02	NE	TILL	520	3.7	32.9	34.2	26.0	0.0	0.0	0.8	0.0	0.0	2.5
F88-19-03	NE	TILL	407	2.5	23.3	54.3	17.4	0.2	0.0	0.5	0.0	0.0	1.7

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-19-01	NE	TILL	12	37	25	1		4	13		T	3		T	5	5	
F88-19-02	NE	TILL	5	49	19	2		9	10		1	T	T	T	4	3	
F88-19-03	NE	TILL	14	36	17	T	11	14	4		1	3				3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-19-01	NE	TILL	9.6	1.9	7.7	180.2	140.6	39.6	33.5	6.1
F88-19-02	NE	TILL	11.5	4.5	7.0	179.6	143.6	36.0	30.6	5.4
F88-19-03	NE	TILL	11.7	4.1	7.6	264.3	214.3	50.0	41.5	8.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-19-01	25 X 25				1			1	EST. 15% PYRITE
	25 X 50				2		1	3	2 GRAINS GALENA
	50 X 75				2		1	3	40 NATIVE COPPER
	75 X 100		1					1	AVG. SIZE 100X100 MICRONS
								8	
F88-19-02	25 X 25				1		1	2	EST. 30% PYRITE
	25 X 50		1					1	50 GRAINS COPPER
	50 X 50				4			4	AVG. SIZE 175X175 MICRONS
	50 X 75				1			1	
								8	
F88-19-03	50 X 50				1			1	EST. 40% PYRITE
	200 X 225	1						1	50 GRAINS CU 100X100
								2	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-19-01G	23	1.5	-0.2	1	-0.1	30.9	5	66.5	40	162	15	454		
F88-19-02G	4	1.5	0.2	3	0.1	29.1	5	71.3	42	124	15	418		
F88-19-03G	2	1.5	-0.2	-1	-0.1	22.2	5	29.5	18	88	10	474		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-19-01H	320	251	139	3.4	3	1.0	633.2	29	291.0	87	200	158	97		
F88-19-02H	280	200	119	2.8	2	1.3	923.9	29	222.0	96	212	170	124		
F88-19-03H	120	107	111	2.4	2	0.2	242.0	26	66.0	99	213	154	90		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

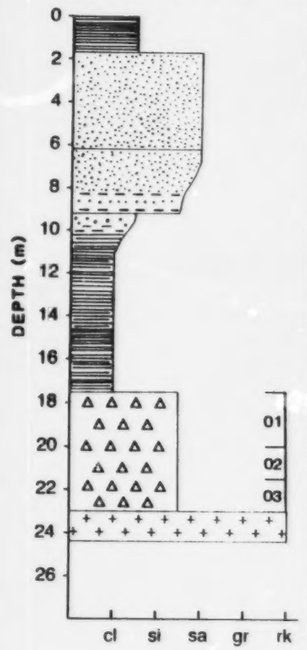
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-20

Township: Patullo **Collar Elevation: 338 m**

UTM Coordinates: 5403550 m N 411400 m E

Graphic Log:



Descriptive Log:

0.0-1.7m -buff-grey to grey silty clay; grit and pebble-free; appears massive; moderate sorting; oxidized; dense and compact; calcareous; carbonate concretions present; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

1.7-5.8m -light orangy-brown to buff-grey silty very fine sand to medium sand with minor silt; grit and pebble-free; well sorted and laminated; some thin bands of shale and lignite-rich sand present; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SAND.

5.8-6.2m -dark grey fine-medium sand with some silt and clay; very dirty sand; some grits and small pebbles; poorly sorted; crudely bedded; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SAND AND SILT.

6.2-9.2m -grey very fine sand grading to sandy silt; minor dark grey clay; grit and pebble-free; well laminated; rhythmically laminated between 8.0-9.2m; couplets 10 cms thick; clay laminae 0.5 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SAND AND SILT.

9.2-11.0m -dark grey silty clay grading to clay; a few grits and pebbles; appears massive; moderate sorting; very plasticity and soft; slightly grittier and pebblier near top; calcareous; mainly subrounded carbonate pebbles up to 1.5 cms diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

11.0-17.5m -grey to brownish-grey clay and silty clay with very few grits and pebbles; some intraclasts of glaciolacustrine very fine sand and silt near top of unit; lower part of unit is well laminated and grit and pebble-free; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIO-LACUSTRINE CLAY.

17.5-23.0m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate-strongly compact; slightly calcareous; 10% clasts by volume; mainly subangular felsic-intermediate intrusives and extrusives and mafic extrusives up to 3 cms diameter; felsic-intermediate extrusives increase downward; sharp lower contact: LABRADOREAN TILL.

23.0-24.4m heterolithic, poorly sorted, intermediate to mafic lithic lapilli tuff; possible small collapse pumice: BEDROCK

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-20-01	17.5	20.0
F88-20-02	20.0	21.5
F88-20-03	21.5	23.0

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-20-01	NE	TILL	59.0	35.0	6.0	2.7	0.59
F88-20-02	NE	TILL	65.0	29.0	6.0	4.0	0.55
F88-20-03	NE	TILL	64.0	30.0	6.0	3.0	0.48

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-20-01	NE	TILL	387	10.3	19.9	43.4	17.8	0.5	4.9	0.5	0.0	0.0	2.6
F88-20-02	NE	TILL	495	5.9	29.3	40.2	19.0	1.2	1.8	0.6	0.0	0.0	2.0
F88-20-03	NE	TILL	339	2.4	21.2	26.8	46.6	0.0	0.9	0.0	0.3	0.3	1.5

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-20-01	NE	TILL	16	33	14	1	4	14	11		1	4	T	T	2	6	
F88-20-02	NE	TILL	10	46	13	1	1	9	10		T	3	2	1	4	2	
F88-20-03	NE	TILL	11	37	18	6	1	10	10		3	2	T	T	2	6	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-20-01	NE	TILL	11.1	2.0	9.1	308.8	266.7	42.1	35.6	6.5
F88-20-02	NE	TILL	12.8	2.9	9.9	262.7	208.5	54.2	45.1	9.1
F88-20-03	NE	TILL	11.0	4.6	6.4	210.6	179.4	31.2	25.8	5.4

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-20-01	25 X 25				2			2	EST. 25% PYRITE
	25 X 50				1			1	30 GRAINS NATIVE COPPER
	50 X 75				1			1	SIZE RANGE 50 TO 900 MICRONS
	150 X 250	1						1	
								5	
F88-20-02	25 X 25				2		1	3	EST. 25% PYRITE
	25 X 50				1			1	50 GRAINS NATIVE COPPER
	25 X 75				1			1	SIZE RANGE 50 TO 1100 MICRONS
	50 X 50				1			1	
	75 X 75				2			2	
	100 X 175	1						1	
								9	
F88-20-03	25 X 25		1				1	2	EST. 40% PYRITE
	75 X 75				1			1	30 GRAINS NATIVE COPPER
								3	SIZE RANGE 50 TO 1000 MICRONS

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-20-01G	2	1.5	-0.2	-1	0.3	16.9	2	28.1	16	79	6	386		
F88-20-02G	16	1.5	0.2	-1	0.3	15.1	3	24.3	14	105	7	386		
F88-20-03G	4	1.5	0.2	-1	0.2	22.3	4	35.6	20	90	10	392		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-20-01H	360	79	101	2.0	1	0.1	786.0	28	87.0	76	237	147	109		
F88-20-02H	170	54	97	1.7	1	0.1	605.7	19	44.0	70	222	135	77		
F88-20-03H	100	38	139	2.8	1	0.4	666.1	22	68.0	95	210	195	114		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

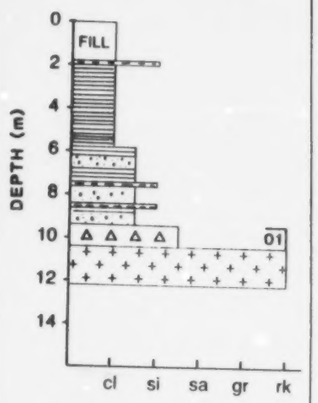
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-21

Township: Patullo **Collar Elevation:** 337 m

UTM Coordinates: 5402050 m N 409750 m E

Graphic Log:



Descriptive Log:

0.0-1.9m -FILL.

1.9-2.0m -mottled greyish-brown and orangy-brown clayey silt; oxidized; grit and pebble-free; appears massive to faintly laminated; calcareous; sharp lower contact; EMERSON PHASE GLACIOLACUSTRINE SILT.

2.0-5.8m -mottled greyish-brown and grey grading to dark grey silty clay and clay; appears massive; moderate sorting; grit and pebble-free; dense and compact; plasticity; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY.

5.8-9.4m -light greyish-brown clayey silt with a few grits and pebbles, light grey clayey silt with thin clay laminae, and light greenish-grey silt; well stratified; massive in places; moderate sorting; calcareous; carbonate pebbles up to 2 cms diameter; sharp lower contact: KEEWATIN-DERIVED GLACIO-LACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

9.4-10.4m -dark greenish-grey sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate compaction and density; non-calcareous; 15% clasts by volume; mainly subangular dark grey, heavily weathered, quartz-bearing greywackes; sharp lower contact: LABRADOREAN TILL.

10.4-12.2m -dark grey, fine grained quartz-bearing greywacke: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-21-01	9.4	10.4			

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-21-01	NE	TILL	33.0	52.0	15.0	7.2	0.43

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-21-01	NE	TILL	381	1.6	77.1	8.7	7.3	0.5	3.7	0.0	0.0	0.0	1.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-21-01	NE	TILL	14	38	19	2	T	13	4		1	1	T		5	3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-21-01	NE	TILL	8.9	2.3	6.6	117.1	102.2	14.9	13.0	1.9

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-21-01	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-21-01G	1	1.5	0.2	-1	0.4	16.5	5	48.2	23	83	11	392		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-21-01H	100	80	76	1.6	3	1.4	312.8	27	97.0	87	274	121	82		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

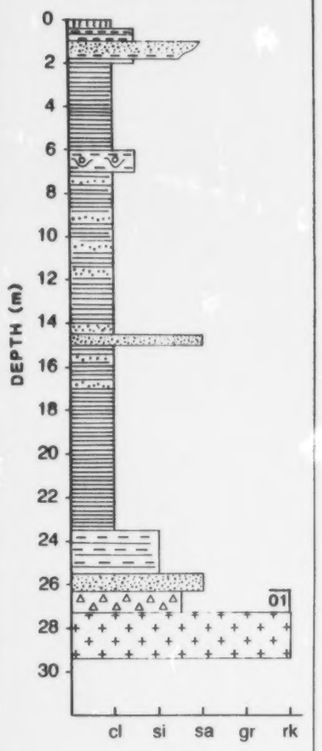
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-22

Township: Patullo **Collar Elevation:** 331 m

UTM Coordinates: 5403700 m N 409700 m E

Graphic Log:



Descriptive Log:

0.0-0.4m -FILL.

0.4-1.0m -mottled grey, brownish-grey, and orangy-brown clayey silt; grit and pebble-free; appears massive; moderate sorting; non-calcareous (leached); sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT.

1.0-1.8m -light buff brown fine-very fine sand grading to very fine sand and silt; grit and pebble-free; well sorted; appears massive; non-calcareous (leached); sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SAND.

1.8-6.0m -dark grey grading to light grey clay to clayey silt; grit and pebble-free; faintly laminated in places; rhythmically near unit top; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

6.0-7.0m -light buff grey clayey silt with some grits and pebbles and dark grey clay and clayey silt; mainly grit and pebble-free layers; well stratified; moderate sorting; mainly carbonate pebbles up to 2 cms diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY WITH ICE-RAFTED DEBRIS.

7.0-14.5m -dark grey clay, silty clay, and gap-graded sandy clay; numerous intraclasts of glaciolacustrine silt up to 1 cm diameter; appears massive; moderate sorting; calcareous sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

14.5-15.0m -buff grey medium-coarse sand with a few pebbles; poorly sorted; appears massive; mainly carbonate pebbles up to 0.5 cms diameter; sand grains subangular-angular; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SAND.

15.0-17.0m -same as from 7.0-14.5m; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

17.0-23.5m -rhythmically laminated dark grey clay and light greenish-grey silt; couplets 5-10 cms thick; silt laminae 2-3 mms thick; grit and pebble-free; well sorted; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

23.5-25.5m -rhythmically laminated light greenish-grey silt with minor clay; grit and pebble-free; couplets 4-5 cms thick; clay laminae 0.5 cms thick; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

25.5-26.3m -light greenish-grey very fine sand; grit and pebble-free; well sorted; appears massive; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

26.3-27.3m -grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; non-calcareous; 60-70% clasts by volume; mainly angular-subangular, soft argillite with abundant pyrite up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

27.3-29.4m -fine-medium grained, foliated, dense greywacke with pyrite along foliation and joint planes: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-22-01	26.3	27.3

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-22-01	NE	TILL	46.0	41.0	13.0	1.4	0.29

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO.PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-22-01	NE	TILL	500	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-22-01	NE	TILL	7	37	13	2	1	9	25		1	1	T	1	3	7	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-22-01	NE	TILL	9.8	4.5	5.3	111.9	96.0	15.9	14.2	1.7

Gold Grain Data

SAMPLE NO.	DIAMETER	ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-22-01	25 X 25		1					1	EST. 85% MASSIVE PYRITE
	50 X 50				1			1	15 GRAINS NATIVE COPPER
	50 X 75		1					1	SIZE RANGE 50 TO 500 MICRONS
	50 X 125				1			1	
								4	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-22-01G	3	9.0	0.3	-1	0.2	47.9	4	75.5	76	236	20	474		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-22-01H	320	320	305	11.0	3	0.4	357.1	35	211.0	518	180	167	60		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

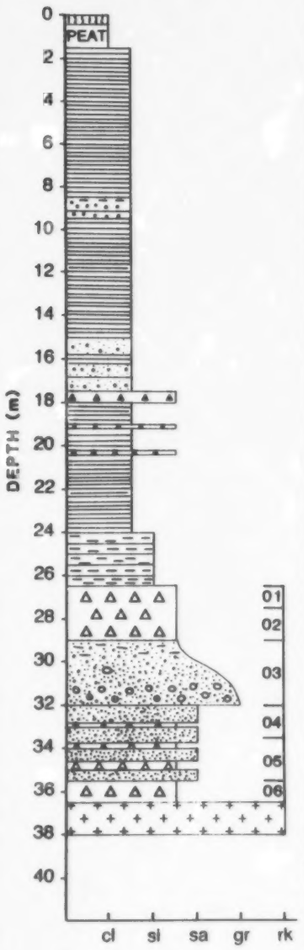
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-23

Township: Patullo **Collar Elevation: 337 m**

UTM Coordinates: 5403900 m N 408150 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -FILL AND PEAT.

1.5-15.0m -light buff grey to dark grey clay, silty clay, and clayey silt (mainly clay); grit and pebble-free; massive-well laminated; well sorted; very soft and plasticity; calcareous; gritty and pebbly zone from 8.5-9.5 m; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

15.0-17.5m -dark grey clay, silty clay, and clayey silt; a few gritty and pebbly zones; crudely bedded; moderate sorting; mainly carbonate pebbles up to 1 cm diameter; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

18.0-24.0m -dark grey, grey, and light greenish-grey silty clay to clayey silt; grit and pebble-free except for a few horizons of gritty sandy silt between 17.5-20.5m; well laminated; rhythmically laminated from 22.0-24.0m; couplets 10-20 cms thick; silt laminae up to 1 cm thick; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

24.0-26.5m -rhythmically laminated light greenish-grey silt and greyish-brown clay; grit and pebble-free; couplets 10 cms thick; clay laminae 1 cm thick; clay is slightly calcareous; silt is non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

26.5-29.0m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderately-loosely compact; moderate density; non-calcareous; 10% clasts by volume; mainly subangular felsic-intermediate intrusives and extrusives and mafic extrusives up to 5 cms diameter; sharp lower contact: LABRADOREAN TILL.

29.0-32.0m -light greenish-grey silty very fine sand and sandy silt grading to pebble gravel; moderately-well sorted; well stratified; non-calcareous; mainly subangular-subrounded felsic-intermediate intrusives and extrusives, mafic extrusives, and greywackes; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL.

32.0-35.5m -light greenish-grey pebbly medium-coarse sand, silty very fine sand, and slightly silty very fine sand with numerous grits and pebbles; crudely bedded diamicts and sorted sands; moderate sorting; loose; <10% clasts by volume; non-calcareous; similar lithologies to the overlying unit; sharp lower contact: LABRADOREAN-DERIVED DIAMICTONS AND GLACIOFLUVIAL SANDS.

35.5-36.5m -light greenish-grey sandy silt with numerous grits and pebbles; appears massive; poorly sorted; dense and compact; non-calcareous; <10% clasts by volume; mainly felsic-intermediate intrusives (QFP); sharp lower contact: LABRADOREAN TILL.

36.5-38.0m -light grey, medium grained (fine grained matrix), inequigranular quartz feldspar porphyry; hornblende-bearing; quartz phenocrysts up to 5 mms diameter: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-23-01	26.5	27.7
F88-23-02	27.7	29.0
F88-23-03	29.0	32.0
F88-23-04	32.0	33.5
F88-23-05	33.5	35.5
F88-23-06	35.5	36.5

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-23-01	NE	TILL	65.0	30.0	5.0	2.6	0.51
F88-23-02	NE	TILL	70.0	29.0	1.0	2.2	0.54
F88-23-04	NE	TILL	76.0	22.0	2.0	2.8	0.56
F88-23-05	NE	TILL	53.0	45.0	2.0	2.1	0.24
F88-23-06	NE	TILL	46.0	48.0	6.0	1.6	0.53

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-23-01	NE	TILL	581	5.0	19.8	44.4	22.5	1.4	0.9	1.7	0.2	0.0	4.1
F88-23-02	NE	TILL	425	3.8	23.3	54.6	7.3	6.6	0.0	0.2	0.0	0.0	4.2
F88-23-03	NE	TILL	309	2.6	17.5	37.9	12.3	3.2	15.2	1.0	0.0	2.6	7.8
F88-23-04	NE	TILL	591	2.0	19.3	42.1	9.5	20.1	0.2	1.2	0.2	0.0	5.4
F88-23-05	NE	TILL	295	6.4	16.9	41.4	10.8	3.4	14.9	2.4	0.0	0.0	3.7
F88-23-06	NE	TILL	569	0.5	2.3	84.7	1.2	1.1	4.2	1.1	0.0	0.2	4.7

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-23-01	NE	TILL	22	39	13	4		11	5	T	1	1	T		4	2	
F88-23-02	NE	TILL	14	31	13	1	2	18	6		2	2		T	11	2	
F88-23-03	NE	TILL	10	33	14	2	2	15	6		2	2			14	2	
F88-23-04	NE	TILL	15	21	25	6	1	13	8		1	1	T	T	9	3	
F88-23-05	NE	TILL	21	22	22	2	2	10	6		3	2	T	T	10	4	
F88-23-06	NE	TILL	11	37	16	1	1	5	7		1	1	T	1	19	5	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-23-01	NE	TILL	12.0	2.0	10.0	207.2	170.4	36.8	31.5	5.3
F88-23-02	NE	TILL	10.6	1.7	8.9	336.5	298.8	37.7	31.7	6.0
F88-23-03	NE	TILL	9.5	1.7	7.8	181.2	159.6	21.6	19.1	2.5
F88-23-04	NE	TILL	11.2	1.7	9.5	196.3	145.0	51.3	7.3	44.0
F88-23-05	NE	TILL	10.2	1.7	8.5	196.5	155.9	40.6	35.6	5.0
F88-23-06	NE	TILL	8.9	1.8	7.1	103.1	89.2	13.9	12.7	1.2

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-23-01	NO VISIBLE GOLD								EST. 3% PYRITE 15 GRAINS NATIVE COPPER SIZE RANGE 50 TO 800 MICRONS
F88-23-02	NO VISIBLE GOLD								
F88-23-03	NO VISIBLE GOLD								
F88-23-04	25 X 25			1				1	EST. 5% PYRITE
	25 X 50			2				2	15 GRAINS NATIVE COPPER
	50 X 75			1				1	SIZE RANGE 50 TO 500 MICRONS
	200 X 200	1						1	
								5	
F88-23-05	50 X 50		1					1	EST. 15% PYRITE
	75 X 100		1					1	30 GRAINS NATIVE COPPER SIZE RANGE 50 TO 500 MICRONS
								2	
F88-23-06	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-23-01G	-1	1.5	0.2	-1	-0.1	18.2	7	46.7	25	91	9	564		
F88-23-02G	5	1.5	0.2	-1	-0.1	15.9	4	40.1	25	91	9	420		
F88-23-04G	4	1.5	0.2	-1	-0.1	15.9	3	44.0	26	106	9	464		
F88-23-05G	22	1.5	0.2	-1	-0.1	18.0	5	53.7	31	95	10	424		
F88-23-06G	-1	1.0	0.2	-1	0.5	10.2	8	75.5	35	62	9	726		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-23-01H	39	22	84	1.4	3	-0.1	923.6	84	134.0	93	281	108	120		
F88-23-02H	62	16	126	1.3	3	0.3	877.5	53	109.0	99	324	108	84		
F88-23-03H	57	51	96	1.3	2	-0.1	393.6	69	156.0	106	275	70	202		
F88-23-04H	200	458	85	1.3	2	-0.1	525.2	53	127.0	91	321	78	124		
F88-23-05H	83	35	87	1.2	2	1.1	512.1	52	128.0	89	328	72	144		
F88-23-06H	25	24	53	1.1	3	0.7	334.2	75	149.0	73	244	67	228		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

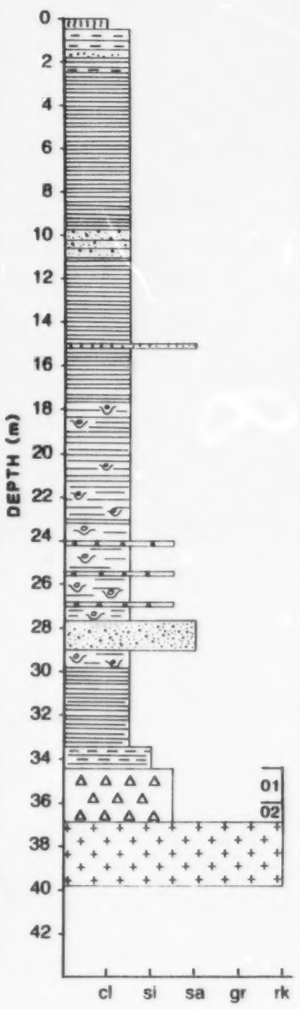
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-24

Township: Nelles **Collar Elevation:** 332 m

UTM Coordinates: 5403700 m N 406700 m E

Graphic Log:



Descriptive Log:

0.0-0.5m -FILL.

0.5-2.5m -light brownish-grey clayey silt, silty clay, and minor very fine sand; well laminated; well sorted; calcareous; numerous carbonate concretions; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND CLAY.

2.5-9.5m -dark grey clay and light grey silty clay; grit and pebble-free; faintly laminated; well sorted; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

9.5-11.0m -dark grey clay and silty clay with a few grits and pebbles; appears massive; moderate sorting; mainly carbonate pebbles up to 0.5 cms diameter; very plasticity and soft; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY WITH ICE-RAFTED DEBRIS.

11.0-17.0m -same as from 2.5-9.5m; one thin horizon (20 cms thick) of poorly sorted, calcareous, pebbly medium sand at 15.0m; gradational lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

17.0-27.7m -light grey silty clay with a few grits and pebbles; minor grey clay, very fine sand, and gritty and pebbly silty very fine sand; layers of gritty and pebbly silty very fine sand up to 5 cms thick; calcareous; crudely bedded; moderate sorting; soft and plasticity; a few cobbles up to 5 cms diameter; mainly subangular carbonates; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY WITH ICE-RAFTED DEBRIS INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

27.7-29.0m -light buff brown fine sand grading to pebbly fine-medium sand; well sorted; appears massive; mainly subrounded carbonate pebbles up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOFLUVIAL SAND.

29.0-29.8m -same as from 17.0-27.7m; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY WITH ICE-RAFTED DEBRIS INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

29.8-33.4m -grey clay and silty clay with minor light buff silt; grit and pebble-free except for a few pebbles near the top of the unit; well laminated; well sorted; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

33.4-34.4m -rhythmically laminated light greyish-green clayey silt and brownish-grey clay; grit and pebble-free; couplets 10 cms thick; clay layers 1.0-1.5 cms thick; silt is non-calcareous; clay is slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

34.4-36.9m -light greenish-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; loose and soft grading to moderately dense and compact; slightly calcareous; 5-10% clasts by volume; mainly subangular felsic-intermediate intrusives and extrusives and mafic extrusives up to 5 cms diameter; sharp lower contact: LABRADOREAN TILL.

36.9-39.8m -badly ground up core (weathered); light grey siltstone: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-24-01	34.4	36.0
F88-24-02	36.0	36.9

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-24-01	NE	TILL	49.0	41.0	10.0	2.4	0.58
F88-24-02	NE	TILL	47.0	43.0	10.0	2.1	0.43

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO.PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-24-01	NE	TILL	441	1.1	17.7	42.4	16.3	7.5	7.5	0.0	0.0	0.9	6.6
F88-24-02	NE	TILL	482	3.5	16.6	46.3	11.8	0.4	11.6	0.0	0.0	1.7	8.1

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-24-01	NE	TILL	13	23	21	3	1	5	9		1	1		T	21	2	RARE TRACE OF FRANKLINITE
F88-24-02	NE	TILL	8	23	22	4	2	5	4		1	1		1	29	4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-24-01	NE	TILL	12.3	2.5	9.8	244.5	173.5	71.0	65.1	5.9
F88-24-02	NE	TILL	9.3	1.0	8.3	251.2	189.8	61.4	57.3	4.1

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-24-01	25 X 25			1				1	EST. 15% PYRITE
	25 X 50		1		1			2	20 GRAINS NATIVE COPPER
	50 X 50				1			1	SIZE RANGE 50 TO 500 MICRONS
								4	
F88-24-02	25 X 25		1					1	EST. 15% PYRITE
	50 X 75				1			1	40 NATIVE COPPER
	125 X 175	1						1	SIZE RANGE 50 TO 800 MICRONS
	175 X 200	1						1	
								4	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-24-01G	1	4.0	0.3	-1	-0.1	25.7	5	46.0	32	78	8	420		
F88-24-02G	1	3.0	0.2	1	-0.1	26.4	5	49.2	31	82	8	464		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-24-01H	68	389	202	1.9	1	-0.1	3154.0	47	230.0	104	168	117	144		
F88-24-02H	140	293	145	1.3	1	-0.1	2403.3	44	246.0	79	158	99	117		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

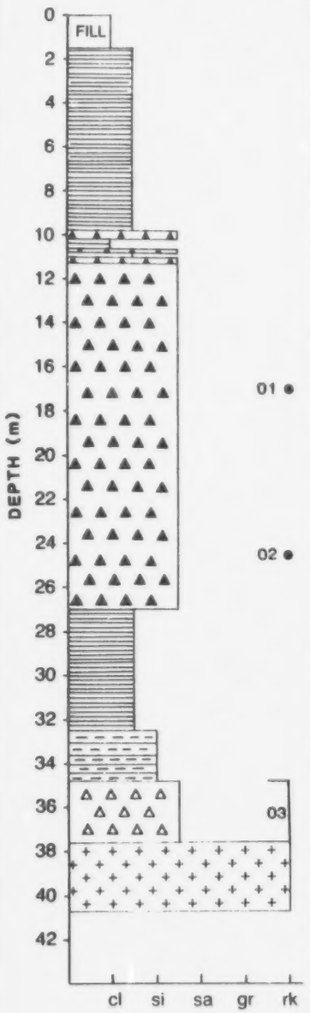
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-25

Township: Dilke **Collar Elevation:** 334 m

UTM Coordinates: 5397100 m N 406450 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -FILL.

1.5-9.8m -mottled orangy-brown, light buff brown, and buff-grey silty clay and clayey silt with minor clay and silt; grit and pebble-free; appears massive to well laminated; well sorted; 5 cm thick band of red clay at 2.5m; calcareous; carbonate concretions present near surface; sharp lower contact: EMERSON PHASE GLACIO-LACUSTRINE SILT AND CLAY.

9.8-11.3m -light greyish-brown gritty and pebbly sandy silt with minor clay and dark grey clay; rhythmically laminated; couplets 3 cms thick grading to 10-15 cms thick; clay laminae 1 cm thick; moderate-poor sorting; calcareous; mainly subangular carbonate pebbles up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

11.3-27.0m -grey loamy silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; very soft and pliable; calcareous; <5% clasts by volume; mainly subrounded carbonates up to 3 cms diameter; minor shales present; some intraclasts of glaciolacustrine silt up to 1 cm diameter; sharp lower contact: KEEWATIN TILL.

27.0-32.5m -dark grey clay and silty clay; grit and pebble-free; faintly laminated; well sorted; soft and plasticity; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

32.5-34.8m -rhythmically laminated light greenish-grey silt and dark grey clay grading to massive light greenish grey silt; couplets 4-5 cms thick; clay laminae 1.0-1.5 cms thick; grit and pebble-free; clay is slightly calcareous; silt is non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

34.8-37.6m -light olive-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted except for thin layer of pebbly medium-coarse sand in lower 10 cms of unit; loose and soft; slightly calcareous; 10% clasts by volume; mainly subangular felsic-intermediate extrusives and metagreywackes up to 4 cms diameter; sharp lower contact: LABRADOREAN TILL.

37.6-40.7m -greenish-grey, schistose, poorly sorted intermediate to mafic lithic crystal tuff to lapilli tuff; up to 3 mm diameter feldspars in a greenish-grey matrix; slightly more intermediate clasts of feldspar porphyry (no hornblende phenocrysts): BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-25-01	17.0	
F88-25-02	24.5	
F88-25-03	34.8	37.6

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-25-01	W	TILL	36.0	32.0	32.0	32.2	0.60
F88-25-02	W	TILL	36.0	32.0	32.0	31.4	0.50
F88-25-03	NE	TILL	56.0	34.0	10.0	2.6	0.75

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-25-03	NE	TILL	370	0.3	8.1	7.0	56.2	0.0	26.2	0.0	0.5	0.0	1.6

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-25-03	NE	TILL	7	46	20	3		7	9		T	1	T	T	7	4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-25-03	NE	TILL	12.4	3.8	8.6	263.0	236.5	26.5	22.7	3.8

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-25-03	25 X 25		1					1	EST. 20% PYRITE
	50 X 50				1			1	20 GRAINS NATIVE COPPER
	100 X 150						1	1	SIZE RANGE 50 TO 1600 MICRONS
								3	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-25-01G	-1	3.0	0.2	3	-0.1	13.1	9	42.1	17	84	5	462		
F88-25-02G	-1	3.5	0.3	3	-0.1	14.5	10	40.2	16	71	5	458		
F88-25-03G	2	1.5	-0.2	-1	-0.1	27.9	4	38.7	29	154	10	386		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-25-03H	400	398	100	1.8	3	0.5	935.8	19	70.0	120	473	170	463		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

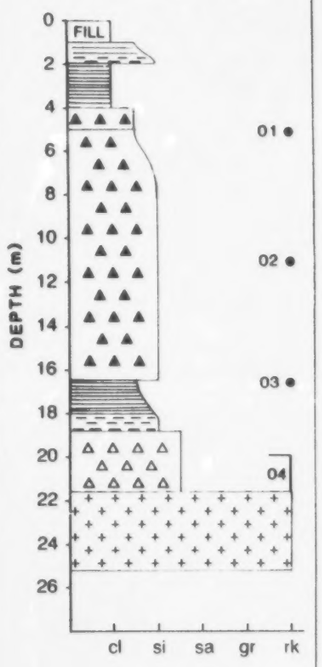
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-26

Township: Nelles **Collar Elevation: 336 m**

UTM Coordinates: 5399800 m N 398300 m E

Graphic Log:



Descriptive Log:

0.0-1.0m -FILL.

1.0-2.0m -mottled orangy-brown, light buff grey, and grey silty clay grading to silt; grit and pebble-free; moderate sorting; well laminated; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE CLAY AND SILT.

2.0-4.0m -mottled orangy-brown, brownish-grey, and greyish-brown silty clay and clay; grit and pebble-free; appears massive; well sorted; very dense and compact; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY.

4.0-16.5m -brownish-grey gritty and pebbly clayey silt grading to light grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded carbonates up to 3 cms diameter; sharp lower contact: KEEWATIN TILL.

16.5-18.8m -dark brownish-grey clay grading to rhythmically laminated light greenish-grey silt and dark grey clay; grit and pebble-free; couplets 2-3 cms thick; clay laminae are 1.0 cms thick; clay at top is massive and slightly calcareous; silt is non-calcareous; lower 0.8m is massive grit-free silt; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

18.8-19.9m -GRANITIC BOULDER.

19.9-21.6m -light greenish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate-high density and compaction; non-calcareous; 5% clasts by volume; mainly subangular-subrounded felsic-intermediate intrusives and extrusives, schists, and mafic extrusives up to 3 cms diameter; sharp lower contact: LABRADOREAN TILL.

21.6-25.2m -olive-green, fine grained, fault gouge (mafic volcanic): BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-26-01	5.0	
F88-26-02	11.0	
F88-26-03	16.5	
F88-26-04	19.9	21.6

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-26-01	W	TILL	23.0	44.0	33.0	39.4	0.47
F88-26-02	W	TILL	40.0	35.0	25.0	34.4	0.58
F88-26-03	W	TILL	41.0	33.0	26.0	34.0	0.60
F88-26-04	NE	TILL	58.0	34.0	8.0	2.3	0.38

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-26-04	NE	TILL	378	4.8	17.5	32.5	20.1	20.4	1.6	0.3	0.0	0.0	2.9

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-26-04	NE	TILL	13	29	17	6		8	15		T	2			10	3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F88-26-04	NE	TILL	9.0	2.5	6.5	206.3	174.3	32.0	28.3	3.7

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-26-04	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-26-01G	21	4.5	0.2	2	-0.1	13.5	9	32.6	15	75	5	390		
F88-26-02G	-1	2.5	0.2	3	-0.1	14.0	9	39.1	16	85	5	412		
F88-26-03G	-1	3.0	0.3	3	-0.1	13.9	8	38.1	16	73	5	418		
F88-26-04G	7	80.0	0.2	-1	-0.1	36.4	3	51.1	62	360	20	358	-5	3

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-26-04H	83	129	130	1.6	3	-0.1	806.0	32	99.4	142	260	123	165	11	14

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

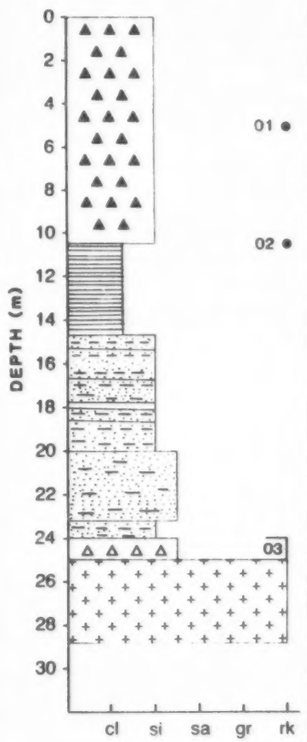
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-26-04M	6	12	13	0.9	49		75.2	11	61.1	100	2070	40	33	30	-6

Sonic Borehole Number: F88-27

Township: Blue **Collar Elevation:** 341 m

UTM Coordinates: 5400600 m N 395200 m E

Graphic Log:



Descriptive Log:

0.0-10.5m -light buff brown grading to grey silty, clayey very fine sand with numerous grits and pebbles; poorly sorted; appears massive; dense and compact; calcareous; 5% clasts by volume; mainly subrounded carbonates up to 10 cms diameter; some pebbles are faceted and striated; sharp lower contact: KEEWATIN TILL.

10.5-14.7m -dark grey clay and light grey silty clay; grit and pebble-free; well laminated; moderate sorting; moderate density and compaction; slightly calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE CLAY.

14.7-23.2m -light greenish-grey silt and light brown and greenish-brown very fine sand to sandy silt; minor brown clay; grit and pebble-free; well sorted and laminated; non-calcareous except for slightly calcareous clay laminae near unit top; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND SAND.

23.2-24.0m -golden-brown silt and sandy silt with a few grits and pebbles; well sorted matrix; appears massive; loose; non-calcareous; pebbles subangular-subrounded and up to 3-4 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT WITH DROPSTONES.

24.0-25.0m -greyish-green silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; non-calcareous; 10% clasts by volume; subangular, bladed, and platy felsic-intermediate extrusives up to 4 cms diameter; sharp lower contact; LABRADOREAN TILL.

25.0-28.8m -greyish-green, schistose, fine grained, chloritic, soft (talcose) mafic metavolcanic: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-27-01	5.0	
F88-27-02	10.5	
F88-27-03	24.0	25.0

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-27-01	W	TILL	42.0	35.0	23.0	34.4	0.52
F88-27-02	W	TILL	33.0	32.0	35.0	31.2	0.58
F88-27-03	NE	TILL	47.0	45.0	8.0	2.6	0.63

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-27-03	NE	TILL	382	1.3	0.5	6.0	89.3	0.0	0.8	0.3	0.3	0.0	1.6

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-27-03	NE	TILL	5	34	18	3	1	7	17			T	T	T	15	2	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-27-03	NE	TILL	9.8	3.5	6.3	157.8	144.1	13.7	12.1	1.6

Gold Grain Data

SAMPLE NO.	DIAMETER	ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-27-03	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-27-01G	-1	2.5	0.2	3	-0.1	15.0	10	36.2	17	72	5	368		
F88-27-02G	-1	3.0	0.3	2	-0.1	16.1	11	48.5	21	107	6	440		
F88-27-03G	4	1.0	0.2	-1	-0.1	69.8	2	47.1	129	544	29	314	5	7

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-27-03H	32	28	87	1.2	3	-0.1	2582.5	23	77.2	174	556	117	147	47	22

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

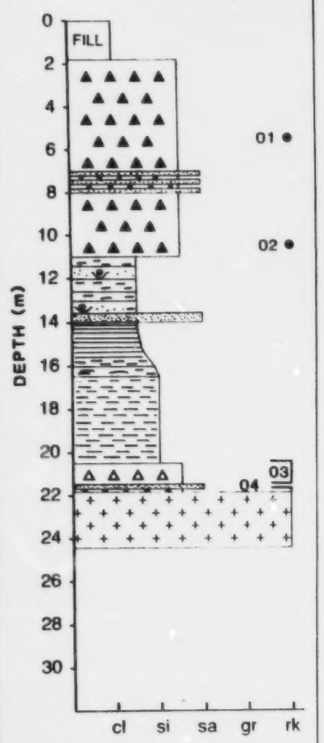
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-27-03M	-5	83	8	0.4	9		75.3	12	67.1	107	6150	57	52	208	-42

Sonic Borehole Number: F88-28

Township: Atwood **Collar Elevation: 338 m**

UTM Coordinates: 5399100 m N 388300 m E

Graphic Log:



Descriptive Log:

0.0-1.8m -FILL.

1.8-7.0m -light buff grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; <5% clasts by volume; mainly subrounded-subangular carbonates up to 2 cms diameter; minor lignite and shale; sharp lower contact: KEEWATIN TILL.

7.0-8.0m -light buff grey silty very fine sand with numerous grits and pebbles and light grey fine-very fine sand; sandy horizons massive, well sorted, and 5-10 cms thick; gritty and pebbly silty sand is similar to overlying unit; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SAND INTERBEDDED WITH KEEWATIN TILL.

8.0-11.0m -same as from 1.8-7.0m; more clay-rich near base; sharp lower contact: KEEWATIN TILL.

11.0-13.6m -light greenish-grey silt, dark brownish-grey clay, and light grey silty clay and clayey silt with some gritty and pebbly zones; rhythmically laminated in places; couplets 2 cms thick; silt laminae 0.5 cms thick; calcareous; mainly subangular carbonate pebbles up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY WITH ICE-RAFTED DEBRIS.

13.6-14.0m -grey pebbly medium-coarse sand; appears massive; moderately-poorly sorted; calcareous; mainly subrounded carbonate pebbles up to 0.5 cms diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOFLUVIAL SAND.

14.0-16.5m -rhythmically laminated greenish-grey silt and brownish-grey clay; couplets 20-30 cms thick near unit top; clay layers up to 20 cms thick; silt layers up to 10 cms thick; couplets 2-3 cms thick near base; clay laminae up to 1 cm thick; a few grits and pebbles in the clay units; clay is calcareous; silt is non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIO-LACUSTRINE SILT AND CLAY RHYTHMITES.

16.5-20.5m -light greenish-grey silt; grit and pebble-free; well sorted; appears massive except for one calcareous clay lamination at 19.5m; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT.

20.5-21.5m -light grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; loose and water saturated; non-calcareous; 5-10% clasts by volume; mainly subangular felsic-intermediate intrusives and mafic extrusives up to 4 cms diameter; sharp lower contact: LABRADOREAN TILL.

21.5-21.7m -grey pebbly medium-coarse sand; appears massive; poorly sorted; non-calcareous; sand grains subangular; pebbles subangular and up to 1 cm diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

21.7-21.9m -same as from 20.5-21.5m; light yellow-greenish-grey; 10-20% clasts by volume; mainly subangular felsic-intermediate intrusives, mafic extrusives, and bladed, platy schists; sharp lower contact: LABRADOREAN TILL.

21.9-24.5m -light brown, fine grained, schistose, sericitic intermediate to felsic tuff; altered/weathered; portions have been altered and are light grey in colour: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-28-01	5.5	
F88-28-02	10.5	
F88-28-03	20.5	21.5
F88-28-04	21.7	21.9

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-28-01	W	TILL	42.0	39.0	19.0	33.8	0.51
F88-28-02	W	TILL	37.0	33.0	30.0	32.0	0.55
F88-28-04	NE	TILL	54.0	42.0	4.0	2.7	0.49

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-28-03	NE	TILL	433	4.2	22.2	50.8	7.6	9.2	0.0	0.9	0.7	0.2	4.2

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-28-03	NE	TILL	4	36	22	5	T	10	7	T	T	1	T	T	15	2	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-28-03	NE	TILL	13.5	3.0	10.5	240.7	191.9	48.8	41.4	7.4

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-28-03	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-28-01G	-1	2.5	0.3	3	-0.1	13.3	8	38.6	16	64	4	408		
F88-28-02G	-1	4.0	0.3	2	-0.1	13.5	9	39.0	15	65	5	502		
F88-28-04G	2	2.0	0.2	1	0.3	18.7	3	25.1	11	41	8	417	-5	-1

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-28-03H	62	53	40	1.2	3	1.4	236.6	22	152.0	62	243	95	203	-5	3

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

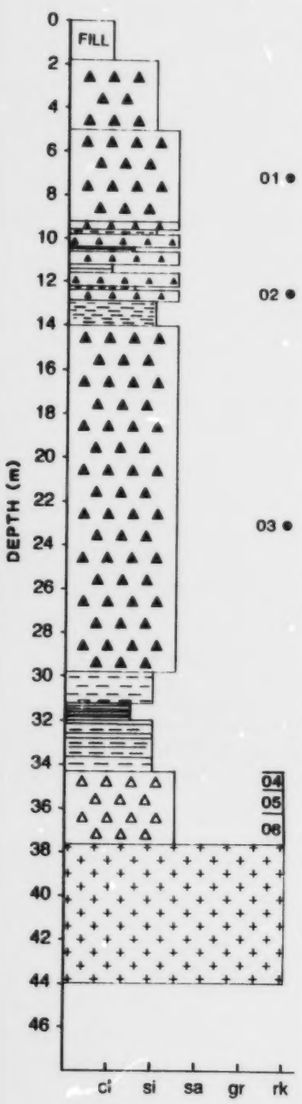
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-28-03M	-5	-3	3	-0.2	3		33.3	11	47.3	57	2430	36	41	-15	-3

Sonic Borehole Number: F88-29

Township: Worthington **Collar Elevation:** 336 m

UTM Coordinates: 5395900 m N 388450 m E

Graphic Log:



Descriptive Log:

0.0-1.8m -FILL.

1.8-5.0m -mottled orangy-brown and light buff brown silt with a few grits and pebbles; heavily oxidized; abundant iron staining; some manganese precipitates; appears massive; poorly sorted; moderate density and compaction; <5% clasts by volume; mainly subangular-subrounded carbonates up to 3 cms diameter; most crystalline clasts weathered out; sharp lower contact: KEEWATIN TILL.

5.0-9.2m -mottled light grey, light buff brown, and orangy-brown sandy silt with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; 5% clasts by volume; mainly subrounded carbonates, shales, and lignite up to 7 cms diameter; sharp lower contact: KEEWATIN TILL.

9.2-12.9m -light grey sandy silt with numerous grits and pebbles and grey silt to clay with minor very fine sand; well stratified; moderate-poor sorting; calcareous; mainly carbonate pebbles up to 2-3 cms diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH DEBRIS FLOWS.

12.9-14.0m -light grey silt and sandy silt; well laminated and sorted; calcareous; a few subrounded carbonate pebbles up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT.

14.0-29.8m -same as from 5.0-9.2m; sharp lower contact: KEEWATIN TILL.

29.8-31.2m -light grey silt; appears massive; well sorted; a few grits and small pebbles; loose and rubbery; calcareous; a few intraclasts of glacio-lacustrine clayey silt 1-2 mms diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT.

31.2-34.3m -rhythmically laminated light greenish-grey silt and dark grey clay; clay dominates near top of unit and decreases downward; couplets 4 cms thick; clay is calcareous; silt is non-calcareous; a few carbonate pebbles 0.5 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SILT AND CLAY RHYTHMITES.

34.3-37.7m -dark greenish-grey silty very fine sand with numerous grits and pebbles; poorly sorted and massive except for some thin layers (3 cms) of gritty fine sand between 35.1-36.1m; variable density and compaction; non-calcareous; 10% clasts by volume; mainly felsic-intermediate intrusives, mafic extrusives, and felsic-intermediate extrusives; sharp lower contact: LABRADOREAN TILL.

37.7-44.0m -black, well laminated siltstone to mudstone; pyrite along bedding planes: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-29-01	7.2				
F88-29-02	12.5				
F88-29-03	23.0				
F88-29-04	34.3	35.1			
F88-29-05	35.1	36.2			
F88-29-06	36.2	37.7			

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-29-01	W	TILL	37.0	44.0	19.0	32.5	0.41
F88-29-02	W	TILL	37.0	39.0	24.0	29.5	0.52
F88-29-03	W	TILL	39.0	45.0	16.0	25.8	0.56
F88-29-04	NE	TILL	71.0	26.0	3.0	4.0	0.55
F88-29-05	NE	TILL	77.0	21.0	2.0	3.1	0.38
F88-29-06	NE	TILL	60.0	34.0	6.0	2.3	0.29

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-29-04	NE	TILL	444	24.3	19.8	36.9	11.7	0.9	2.3	2.3	0.2	0.7	0.9
F88-29-05	NE	TILL	427	8.0	25.5	44.3	16.4	0.2	0.0	0.5	0.2	3.0	1.9
F88-29-06	NE	TILL	443	6.5	30.2	32.7	18.5	0.0	9.5	0.7	0.4	0.0	1.4

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-29-04	NE	TILL	17	24	31	6	1	6	9	T	T	1		T	5	5	
F88-29-05	NE	TILL	8	34	23	6	2	9	10			1		5	2	8	
F88-29-06	NE	TILL	13	25	25	8	2	6	16			T		1	4	8	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-29-04	NE	TILL	10.4	2.2	8.2	292.0	237.9	54.1	44.1	10.0
F88-29-05	NE	TILL	10.1	2.3	7.8	323.4	249.9	73.5	59.9	13.6
F88-29-06	NE	TILL	13.8	4.0	9.8	308.9	213.1	95.8	83.8	12.0

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-29-04	NO VISIBLE GOLD								
F88-29-05	25 X 25	1		3				4	EST. 30% PYRITE
									10 GRAINS NATIVE COPPER
									SIZE RANGE 50 TO 200 MICRONS
								4	
F88-29-06	50 X 75		1					1	EST. 40% PYRITE
	50 X 100		1					1	10 GRAINS NATIVE COPPER
	125 X 225	1						1	SIZE RANGE 50 TO 200 MICRONS
								3	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-29-01G	-1	3.5	0.4	2	-0.1	13.9	10	37.3	16	64	4	416		
F88-29-02G	-1	4.0	0.4	2	-0.1	15.6	9	45.8	18	51	6	386		
F88-29-03G	-1	4.0	0.3	2	-0.1	15.7	12	46.7	17	58	6	426		
F88-29-04G	2	1.5	0.2	-1	-0.1	21.3	4	25.9	35	183	7	368		
F88-29-05G	2	2.0	-0.2	-1	-0.1	17.5	4	19.6	23	196	8	344		
F88-29-06G	3	2.0	0.2	1	-0.1	22.0	3	60.6	66	177	12	347	-5	1

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-29-04H	41	34	65	1.0	2	0.3	197.5	16	72.0	151	354	149	489		
F88-29-05H	43	21	66	1.0	-1	-0.1	135.1	14	52.0	81	337	96	70		
F88-29-06H	200	79	115	1.1	5	0.1	238.9	38	275.9	171	318	118	139	6	6

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

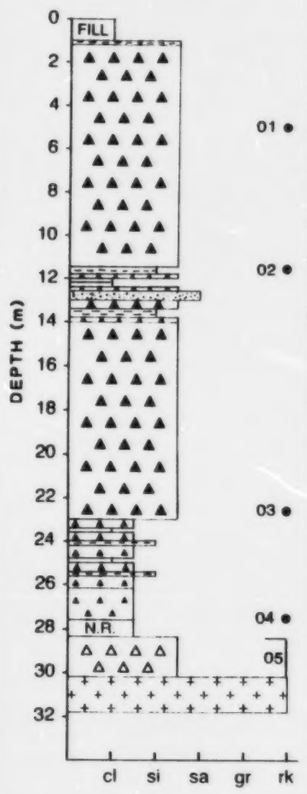
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-29-06M	-5	5	6	-0.2	2		34.7	9	52.4	58	3100	31	20	-8	-2

Sonic Borehole Number: F88-30

Township: Atwood **Collar Elevation: 341 m**

UTM Coordinates: 5398800 m N 385800 m E

Graphic Log:



Descriptive Log:

0.0-1.0m -FILL.

1.0-1.2m -rhythmically laminated dark grey clay and light buff-brown sandy silt with a few grits and pebbles; couplets 2-3 cms thick; clay laminae 0.5 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

1.2-11.5m -light buff brown grading to grey silty very fine sand with numerous grits and pebbles; poorly sorted, appears massive; moderate density and compaction; calcareous; 2-5% clasts by volume; mainly subrounded carbonates up to 2 cms diameter; sharp lower contact: KEEWATIN TILL.

11.5-14.0m -dark grey silty very fine sand with numerous grits and pebbles, greenish-grey silt, dark grey clay, and dirty medium-coarse sand with some pebbles; well stratified; moderate-poor sorting; calcareous; abundant pebbles of carbonates, shales, and lignite; sharp lower contact: KEEWATIN-DERIVED DEBRIS FLOWS INTERBEDDED WITH GLACIOLACUSTRINE SAND TO CLAY.

14.0-23.0m -grey sandy silt with numerous grits and pebbles; finer grained than till from 1.2-11.5m; appears massive except for one thin (1 cm) lamination of silty clay at 21.5m; poorly sorted; moderate density and compaction; calcareous; 2-3% clasts by volume; mainly subrounded carbonate pebbles up to 0.5 cm diameter; sharp lower contact: KEEWATIN TILL.

23.0-26.1m -light grey clayey silt with some grits and pebbles, light grey silt, and dark grey clay; poorly sorted till-like layers; well sorted silt and clay laminae; soft and pliable; calcareous; 1-2% clasts by volume; mainly carbonate pebbles up to 3 cms diameter; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY INTERBEDDED WITH SUBAQUEOUS DEBRIS FLOWS.

26.1-27.6m -dark grey clayey silt with a few grits and pebbles; poorly sorted; appears massive; very dense and compact; calcareous; some carbonate concretions; 1-2% clasts by volume; mainly subrounded-subangular crystalline clasts up to 3-4 cms diameter; no carbonate clasts noticed; sharp lower contact: KEEWATIN TILL.

27.6-28.4m -NOT RECOVERED.

28.4-30.2m -light olive-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; non-calcareous; 15-20% clasts by volume; mainly subangular-angular felsic-intermediate intrusives, mafic extrusives, and felsic-intermediate extrusives up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

30.2-31.8m -medium grained, equigranular, foliated hornblende tonalite; mafic xenoliths; hornblendes rimmed with epidote; BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-30-01	5.0	
F88-30-02	11.5	
F88-30-03	22.5	
F88-30-04	27.5	
F88-30-05	28.4	30.2

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-30-01	W	TILL	44.0	38.0	18.0	33.4	0.47
F88-30-02	W	TILL	41.0	37.0	22.0	31.8	0.54
F88-30-03	W	TILL	33.0	39.0	28.0	20.4	0.27
F88-30-04	W	TILL	19.0	43.0	38.0	23.4	0.52
F88-30-05	NE	TILL	72.0	24.0	4.0	2.6	0.63

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-30-05	NE	TILL	470	6.0	16.0	65.7	10.9	0.4	0.6	0.0	0.0	0.0	0.4

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-30-05	NE	TILL	11	43	21	9	7	2	2	T	1	1	T		3	5	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-30-05	NE	TILL	13.3	3.8	9.5	262.2	210.2	52.0	40.6	11.4

Gold Grain Data

SAMPLE NO.	DIAMETER	ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-30-05	NO VISIBLE GOLD								

NUMBER OF GRAINS

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-30-01G	-1	3.0	0.3	2	-0.1	13.4	10	40.7	15	77	5	382		
F88-30-02G	-1	3.0	0.3	2	-0.1	13.2	8	39.5	15	66	5	540		
F88-30-03G	-1	5.0	0.5	2	-0.1	16.9	12	59.2	21	84	8	626		
F88-30-04G	-1	2.5	0.2	2	-0.1	14.4	9	39.3	17	80	6	564		
F88-30-05G	-1	1.0	-0.2	-1	0.1	26.1	6	31.1	17	103	7	720		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-30-05H	150	323	22	0.5	1	-0.1	254.7	11	36.0	54	339	77	98		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

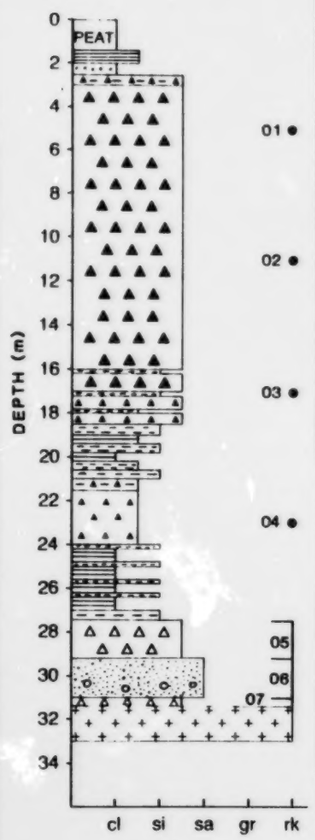
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-31

Township: Atwood **Collar Elevation:** 339 m

UTM Coordinates: 5400800 m N 385100 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -PEAT.

1.5-2.0m -buff yellow grading to bluish-grey silty clay and clayey silt; grit and pebble-free; calcareous; well sorted and laminated; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND CLAY.

2.0-3.0m -rhythmically laminated dark bluish-grey clay and light buff gritty sandy silt; most couplets 2.0-2.5 cms thick; lowest couplet approximately 50 cms thick; clay laminae 1.5 cms thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

3.0-16.0m -mottled light buff brown and light orangy-brown grading to dark grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density and compaction; <5% clasts by volume; mainly subrounded carbonates, shales, and lignite up to 1 cm diameter; most crystalline lithologies are weathered; sharp lower contact: KEEWATIN TILL.

16.0-18.5m -grey silty very fine sand with numerous grits and pebbles, greenish-grey silt, and dark grey clayey silt; well stratified; moderate-poor sorting; silty very fine sand units are massive and similar to overlying unit; sorted silt laminae are 10-20 cms thick and well laminated; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERBEDDED WITH GLACIOLACUSTRINE SILT.

18.5-21.0m -light grey silt, clayey silt, silty clay, and clay; a few grits and pebbles; well laminated and sorted; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

21.0-21.5m -dark grey clayey silt with a few grits and pebbles and minor silt; well laminated; gritty clayey silt units are massive and poorly sorted; silt laminae up to 1 cm thick; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

21.5-24.0m -grey silty clay with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; calcareous; 1-2% clasts by volume; mainly subrounded carbonate clasts up to 3 cms diameter; sharp lower contact: KEEWATIN TILL.

24.0-27.5m -dark grey clay and light greenish-grey silt; massive and contains a few grits and pebbles between 24.0-25.0m; well laminated from 25.0-27.5m; well sorted; upper 3.0m calcareous, lower 0.5m slightly calcareous; sharp lower contact: GLACIOLACUSTRINE SILT AND CLAY (KEEWATIN-LABRADOREAN-DERIVED).

27.5-31.4m -greenish-grey silty fine-very fine sand with numerous grits and pebbles; appears massive; poorly sorted; loose-moderately compact; non-calcareous; 5-10% clasts by volume; mainly subangular felsic-intermediate intrusives and mafic extrusives up to 10 cms diameter; interbed of poorly sorted, silty, medium sand with a few cobbles between 29.2-31.0m; sharp lower contact: LABRADOREAN TILL.

31.4-33.0m -dark green, deeply weathered, medium grained, hornblende-rich mafic to ultramafic rock: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-31-01	5.0	
F88-31-02	11.0	
F88-31-03	17.0	
F88-31-04	23.0	
F88-31-05	27.5	29.2
F88-31-06	29.2	31.0
F88-31-07	31.0	31.4

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-31-01	W	TILL	43.0	37.0	20.0	32.1	0.40
F88-31-02	W	TILL	46.0	32.0	22.0	37.1	0.47
F88-31-03	W	TILL	35.0	37.0	28.0	30.8	0.59
F88-31-04	W	TILL	15.0	42.0	43.0	22.9	0.56
F88-31-05	NE	TILL	76.0	22.0	2.0	3.4	0.41
F88-31-07	NE	TILL	63.0	27.0	10.0	6.7	0.34

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-31-05	NE	TILL	354	6.8	18.1	61.0	8.5	0.0	2.0	2.0	0.6	0.0	1.1
F88-31-06	NE	SAND	133	9.0	23.3	40.6	12.0	0.0	6.8	5.3	2.3	0.0	0.8
F88-31-07	NE	TILL	331	5.7	28.1	36.9	23.6	0.0	1.2	1.5	0.9	0.6	1.5

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-31-05	NE	TILL	10	48	24	8	1	3	T	2		T	T		4	7	
F88-31-06	NE	SAND	5	12	18	4	T	2	5	1				T	53	8	
F88-31-07	NE	TILL	8	20	24	3	T	2	3	1					39	13	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-31-05	NE	TILL	11.6	2.5	9.1	253.6	194.7	58.9	48.1	10.8
F88-31-06	NE	SAND	11.5	2.2	9.3	140.3	71.6	68.7	64.6	4.1
F88-31-07	NE	TILL	6.1	2.1	4.0	340.6	150.8	189.8	187.3	2.5

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-31-05	25 X 25				1		1	2	EST. 1% PYRITE
	25 X 50				2			2	5 GRAINS NATIVE COPPER
	50 X 50		1		1			2	SIZE RANGE 50 TO 200 MICRONS
	50 X 75				1			1	
	50 X 100		1					1	
	100 X 100	2						2	
	125 X 200	1						1	
								11	
F88-31-06	50 X 50				1			1	ESTIMATE 0.5% PYRITE
	100 X 150	1						1	
								2	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-31-01G	1	2.5	0.4	3	-0.1	16.0	10	42.1	15	66	5	564		
F88-31-02G	-1	2.5	0.3	2	-0.1	13.6	8	34.2	13	55	4	508		
F88-31-03G	-1	3.0	0.4	2	-0.1	15.0	8	40.8	16	50	5	508		
F88-31-04G	-1	3.5	0.3	2	0.2	18.2	11	53.8	21	66	7	534		
F88-31-05G	5	1.0	0.2	-1	-0.1	20.0	4	28.5	21	111	6	590		
F88-31-07G	-1	1.5	-0.2	1	-0.1	36.1	9	50.4	34	156	13	702		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-31-05H	190	301	25	0.4	1	0.2	87.3	14	40.0	56	329	72	55		
F88-31-06H	160	64	33	1.0	4	-0.1	98.4	20	91.0	47	170	65	210		
F88-31-07H	20	22	24	0.7	3	0.3	142.1	19	77.0	77	162	72	100		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

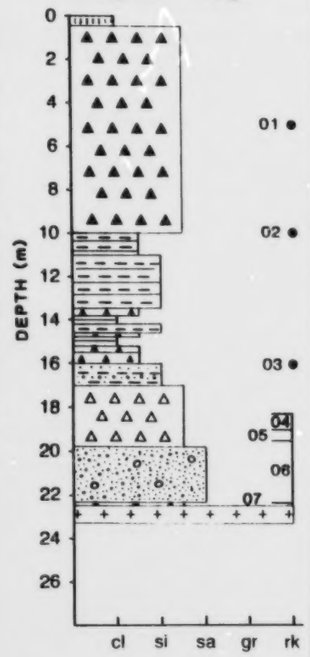
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-32

Township: Atwood **Collar Elevation:** 336 m

UTM Coordinates: 5402500 m N 380200 m E

Graphic Log:



Descriptive Log:

0.0-0.5m -FILL.

0.5-10.0m -mottled orangy-brown, greyish-brown, and brownish-grey grading to grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; ; calcareous; 2-5% clasts by volume; mainly subrounded carbonates and shales up to 3 cms diameter; sharp lower contact: KEEWATIN TILL.

10.0-13.5m -dark grey clay, silty clay, and clayey silt grading to light grey silt with minor clay; a few grits and pebbles; moderate sorting; well laminated near unit top and massive to faintly laminated near base; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE CLAY AND SILT.

13.5-16.0m -dark grey clay, light grey silt, and grey silty clay with a few grits and pebbles; well laminated; moderate-poor sorting; moderate density and compaction; calcareous; mainly subrounded carbonate pebbles up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS INTERBEDDED WITH GLACIOLACUSTRINE SILT AND CLAY.

16.0-17.0m -light buff grey to greenish-grey silt with a few grits and pebbles grading to grey grit-free silt; minor clayey silt; well sorted and laminated; calcareous; sharp lower contact; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT WITH ICE-RAFTED DEBRIS.

17.0-19.5m -light greenish-grey to grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density and compaction grading to very dense and compact; non-calcareous; 10-15% clasts by volume; mainly subangular-subrounded felsic-intermediate intrusives and extrusives, and mafic extrusives up to 7 cms diameter; sharp lower contact: LABRADOREAN TILL.

19.5-19.8m -GRANITIC BOULDER.

19.8-22.4m -grey slightly pebbly medium-coarse sand; abundant silt and clayey silt matrix; poorly sorted; crudely bedded; some small subrounded pebbles up to 3-4 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

22.4-22.5m -same as from 17.0-19.5m; sharp lower contact: LABRADOREAN TILL.

22.5-23.3m -dark green, weathered, massive, equigranular tonalite; contains quartz-feldspar-hornblende: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-32-01	5.0	
F88-32-02	10.0	
F88-32-03	16.0	
F88-32-04	18.3	19.0
F88-32-05	19.0	19.5
F88-32-06	19.5	22.4
F88-32-07	22.4	22.5

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-32-01	W	TILL	43.0	35.0	22.0	36.9	0.47
F88-32-02	W	TILL	47.0	33.0	20.0	36.8	0.50
F88-32-03	W	TILL	23.0	35.0	42.0	22.9	0.47
F88-32-04	NE	TILL	71.0	22.0	7.0	5.9	0.41
F88-32-07	NE	TILL	67.0	24.0	9.0	8.8	0.36

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-32-04	NE	TILL	337	7.1	19.3	52.2	13.9	0.0	0.0	2.4	0.0	0.3	4.8
F88-32-05	NE	TILL	414	6.8	30.4	30.7	22.9	0.0	1.9	2.4	0.2	0.0	4.6
F88-32-06	NE	SAND	453	6.4	24.9	37.1	10.4	0.2	2.9	7.9	1.1	0.9	8.1

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-32-04	NE	TILL	6	33	13	5	1	1	8			T		T	33	14	
F88-32-05	NE	TILL	2	20	16	5	1	1	12	1	T				42	6	
F88-32-06	NE	SAND	3	9	4	5	4	6	13						56	13	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-32-04	NE	TILL	9.2	7.7	1.5	289.2	163.5	125.7	121.4	4.3
F88-32-05	NE	TILL	5.8	1.8	4.0	334.3	219.9	114.4	113.0	1.4
F88-32-06	NE	SAND	10.3	4.0	6.3	216.1	176.7	39.4	36.7	2.7

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-32-04	NO VISIBLE GOLD								
F88-32-05	NO VISIBLE GOLD								
F88-32-06	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-32-01G	-1	2.5	0.3	3	-0.1	12.3	7	30.9	14	55	4	522		
F88-32-02G	-1	2.5	0.4	3	-0.1	12.2	9	32.0	13	62	5	512		
F88-32-03G	-1	9.0	0.6	7	-0.1	24.8	13	72.6	28	86	8	570		
F88-32-04G	-1	1.5	-0.2	-1	-0.1	26.6	7	44.4	20	103	9	624		
F88-32-07G	2	1.5	0.2	1	-0.1	39.9	9	44.7	24	88	14	518		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-32-04H	14	9	19	0.8	6	-0.1	65.5	19	87.0	59	151	56	91		
F88-32-05H	29	13	17	0.8	6	-0.1	105.1	19	109.0	64	84	61	53		
F88-32-06H	19	11	16	0.7	4	-0.1	58.4	18	120.0	70	79	64	65		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

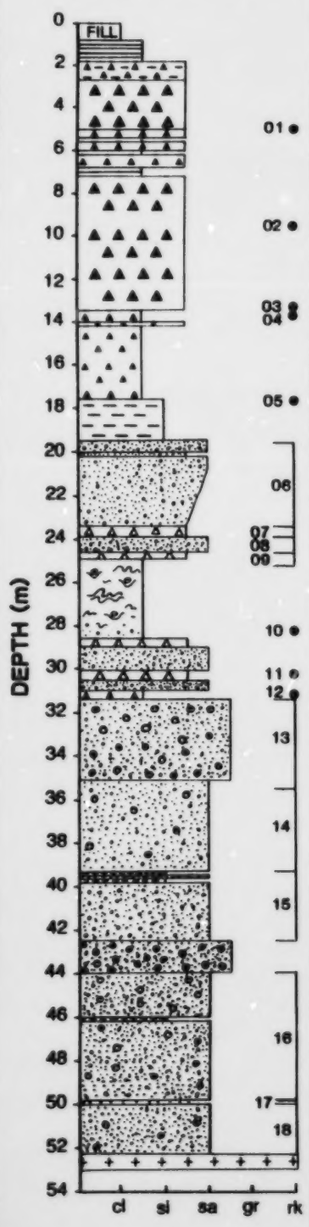
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-33

Township: Atwood **Collar Elevation:** 330 m

UTM Coordinates: 5402900 m N 378700 m E

Graphic Log:



Descriptive Log:

0.0-1.8m -mottled greyish-brown and brownish-grey clayey silt and silty clay; grit and pebble-free appears massive; calcareous; abundant carbonate concretions; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SILT AND CLAY.

1.8-2.7m -rhythmically laminated light buff brown gritty sandy silt and dark grey clay; couplets 10-20 cms thick; clay laminae 1 cm thick; sandy silt layers massive, soft, and loose; calcareous; sharp lower contact: KEEWATIN-DERIVED SUBAQUEOUS DEBRIS FLOWS.

2.7-13.5m -mottled orangy-buff brown and greyish-brown grading to grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; moderate density and compaction; <5% clasts by volume; mainly subrounded carbonate clasts up to 3 cms diameter; interbeds of silt, clayey silt, silty clay, and clay between 5.0-7.2m; sharp lower contact: KEEWATIN TILL.

13.5-17.6m -dark grey silty clay to clayey silt with a few grits and pebbles; appears massive; poorly sorted; moderate density and compaction; <2% clasts by volume; mainly subrounded carbonate clasts up to 0.5 cms diameter; interbed of silty very fine sand till between 14.0-14.2m; sharp lower contact: KEEWATIN TILL.

17.6-19.5m -light greenish-grey silt and dark grey silty clay; grit and pebble-free; well laminated; moderately sorted; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

19.5-23.4m -light greenish-grey to grey fine-medium sand grading to silty very fine sand; 10 cm thick layer of gritty and pebbly silty very fine sand diamicton at 20.0m; a few thin (1 cm thick) clay laminae present near base of unit; well sorted; massive to well stratified; loose and water-saturated; sand is non-calcareous; silt and clay is moderately calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

23.4-25.3m -grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; high density and compaction; slightly calcareous; <5% clasts by volume; mainly subrounded-subangular mafic extrusives up to 10 cms diameter; interbed of well sorted fine sand between 23.9-24.6m; sharp lower contact: LABRADOREAN TILL.

25.3-28.5m -grey silt and clayey silt with a few grits and pebbles; poorly sorted; appears massive to very faintly laminated; disturbed laminations; appears massive near base; very dense and compact (overconsolidated); calcareous; mainly subrounded carbonates up to 1 cm diameter; sharp lower contact: KEEWATIN-DERIVED DIAMICTON INTERBEDDED WITH GLACIOLACUSTRINE SILT.

28.5-31.0m -same as from 23.4-25.3m; interbeds of pebbly, medium-coarse sand between 28.7-30.1m and 30.5-31.0m; sharp lower contact: LABRADOREAN TILL INTERBEDDED WITH GLACIOFLUVIAL SAND.

31.0-31.4m -dark greyish-brown clayey silt with a few grits and small pebbles; appears massive; poorly sorted; very dense and compact; calcareous; mainly subrounded carbonates up to 2-3 mms diameter; sharp lower contact: KEEWATIN-DERIVED DIAMICTON.

31.4-52.3m -well bedded, sand and gravel with minor silt and clay; sharp lower contact: CRETACEOUS SAND AND GRAVEL.

52.3-53.0m -dark green, massive, equigranular, heavily weathered tonalite: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-33-01	5.0		F88-33-10	28.2	
F88-33-02	9.5		F88-33-11	30.2	
F88-33-03	13.4		F88-33-12	31.3	
F88-33-04	13.6		F88-33-13	31.4	35.5
F88-33-05	17.6		F88-33-14	35.5	39.3
F88-33-06	19.6	23.4	F88-33-15	39.3	42.5
F88-33-07	23.4	23.9	F88-33-16	44.0	49.8
F88-33-08	23.9	24.6	F88-33-17	49.8	50.0
F88-33-09	24.6	25.2	F88-33-18	50.0	52.3

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-33-01	W	TILL	44.0	38.0	18.0	35.3	0.42
F88-33-02	W	TILL	44.0	36.0	20.0	36.7	0.47
F88-33-03	W	TILL	46.0	34.0	20.0	35.9	0.53
F88-33-04	W	TILL	20.0	37.0	43.0	21.0	0.41
F88-33-05	W	TILL	27.0	43.0	30.0	20.2	0.33
F88-33-09	NE	TILL	51.0	35.0	14.0	18.2	0.48
F88-33-10	W	TILL	10.0	62.0	28.0	28.8	0.63
F88-33-11	NE	TILL	71.0	19.0	10.0	7.9	0.54
F88-33-12	W	TILL	10.0	61.0	29.0	29.7	0.69
F88-33-17	CRET	SILT	73.0	19.0	8.0	10.0	0.30

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-33-06	NE	SAND	278	4.7	14.7	70.9	0.0	2.2	0.0	4.3	0.7	0.4	2.2
F88-33-07	NE	TILL	159	8.8	22.0	57.2	3.1	0.0	3.1	3.1	0.6	0.6	1.3
F88-33-08	NE	SAND	64	3.1	6.3	78.1	0.0	0.0	6.3	3.1	0.0	0.0	3.1
F88-33-09	NE	TILL	359	8.6	36.8	49.6	2.2	0.0	0.3	1.4	0.0	0.3	0.8
F88-33-13	CRET	SAND	322	5.9	24.5	40.4	8.4	0.0	2.2	5.9	0.9	1.6	10.2
F88-33-14	CRET	SAND	59	3.4	1.7	54.2	0.0	0.0	3.4	6.8	3.4	10.2	16.9
F88-33-15	CRET	SAND	166	0.6	5.4	66.9	1.2	0.0	3.0	7.2	0.6	5.4	9.6
F88-33-16	CRET	SAND	538	6.1	13.4	51.5	4.1	0.0	2.6	5.9	2.2	3.3	10.8
F88-33-18	CRET	SAND	599	3.5	11.7	44.7	5.3	4.7	4.0	3.5	0.7	6.8	15.0

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-33-06	NE	SAND	22	31	20	7	1	7	1	1	T		T		10	10	
F88-33-07	NE	TILL	20	33	19	9	2	9	4	T	2	T	1		1	4	
F88-33-08	NE	SAND	11	35	24	13	3	4	2	1		T	T		8	6	
F88-33-09	NE	TILL	23	29	21	6	5	9	2	1	1	T	T		3	8	
F88-33-13	CRET	SAND	2	7	9	3	3	3	3						70	10	
F88-33-14	CRET	SAND	2	2	1	3	3	6	6	1					76	19	
F88-33-15	CRET	SAND	4	2	3	5	11	2	7						66	6	
F88-33-16	CRET	SAND	6	8	8	T	4	5	6		T				63	6	
F88-33-18	CRET	SAND	6	4	T	3	8	3	6		1				69	13	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-33-06	NE	SAND	11.9	1.2	10.7	450.3	188.2	262.1	252.8	9.3
F88-33-07	NE	TILL	6.6	9.8	-3.2	102.7	85.7	17.0	12.2	4.8
F88-33-08	NE	SAND	9.5	0.1	9.4	316.6	269.6	47.0	39.3	7.7
F88-33-09	NE	TILL	8.7	1.2	7.5	220.3	192.8	27.5	20.2	7.3
F88-33-13	C	SAND	10.6	3.1	7.5	307.9	152.2	155.7	154.2	1.5
F88-33-14	C	SAND	9.5	0.7	8.8	444.0	219.0	225.0	223.5	1.5
F88-33-15	C	SAND	9.3	1.5	7.8	207.4	65.2	142.2	140.6	1.6
F88-33-16	C	SAND	10.1	2.2	7.9	231.4	83.2	148.2	146.9	1.3
F88-33-18	C	SAND	9.2	3.3	5.9	222.6	105.1	117.5	116.6	0.9

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-33-06	25 X 25		2		2			4	EST. 0.1% PYRITE
	25 X 75		1		1			2	
	50 X 50				2			2	
	50 X 75		1					1	
	50 X 100		1					1	
	125 X 150	1						1	
								11	
F88-33-07	NO VISIBLE GOLD								
F88-33-08	NO VISIBLE GOLD								EST. 0.1% PYRITE
F88-31-07	NO VISIBLE GOLD								
F88-33-09	NO VISIBLE GOLD								
F88-33-13	100 X 150			1				1	EST. 20% MARCASITE
	100 X 200		1					1	
								2	
F88-33-14	NO VISIBLE GOLD								
F88-33-15	100 X 125		1					1	EST. 15% MARCASITE
								1	
F88-33-16	NO VISIBLE GOLD								
F88-33-18	NO VISIBLE GOLD								

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-33-01G	-1	2.5	0.3	3	-0.1	14.6	8	37.9	16	46	4	518		
F88-33-02G	-1	3.0	0.2	3	-0.1	13.8	10	33.5	15	50	4	550		
F88-33-03G	-1	3.5	0.4	2	-0.1	11.5	8	35.0	12	58	5	378		
F88-33-04G	-1	8.0	0.6	4	-0.1	21.1	13	70.9	25	94	8	878		
F88-33-05G	-1	7.0	0.5	3	0.2	19.8	10	58.5	23	81	7	810		
F88-33-09G	-1	2.0	0.3	2	-0.1	13.0	7	27.0	14	66	5	660		
F88-33-10G	-1	3.0	0.3	2	0.1	13.3	9	34.8	13	63	6	628		
F88-33-11G	3	1.0	-0.2	-1	-0.1	22.2	7	59.9	20	78	10	778		
F88-33-12G	-1	2.5	0.3	2	-0.1	13.2	8	32.7	15	65	5	650		
F88-33-17G	-1	1.5	0.3	3	-0.1	18.1	10	37.6	18	94	13	462		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-33-06H	160	313	15	0.5	1	0.1	59.6	16	51.0	27	339	40	42		
F88-33-07H	25	16	17	0.6	1	-0.1	67.4	20	41.0	34	360	57	22		
F88-33-08H	37	51	7	0.4	1	-0.1	46.7	11	34.0	19	347	26	18		
F88-33-09H	41	33	17	0.5	1	0.1	103.2	16	41.0	26	365	49	49		
F88-33-13H	20	36	14	0.6	2	-0.1	41.2	19	94.0	49	127	52	89		
F88-33-14H	20	9	14	0.6	4	-0.1	39.8	25	114.0	69	182	57	123		
F88-33-15H	26	4	21	0.9	3	-0.1	33.7	16	98.0	47	105	49	81		
F88-33-16H	13	10	19	0.8	4	-0.1	38.6	21	105.0	69	193	52	115		
F88-33-18H	11	20	16	0.7	4	-0.1	42.4	20	99.0	58	164	47	132		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

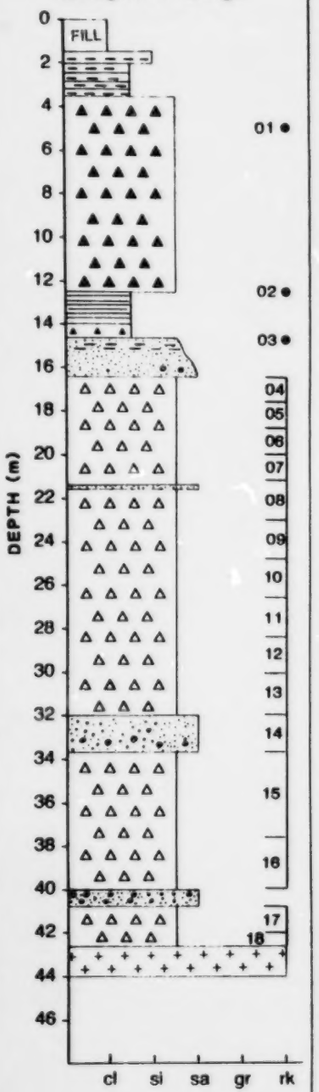
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-34

Township: Atwood **Collar Elevation:** 327 m

UTM Coordinates: 5407500 m N 378400 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -FILL.

1.5-3.5m -mottled dark greyish-brown, buff brown, and black silt and clayey silt; grit and pebble-free; well sorted and laminated; calcareous; sharp lower contact: EMERSON PHASE GLACIO-LACUSTRINE SILT.

3.5-12.5m -greyish brown grading to brownish-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density and compaction; soft and rubbery; calcareous; 1-2% clasts by volume; mainly subangular carbonate clasts up to 3 cms diameter; crystalline lithologies are rotted; sharp lower contact: KEEWATIN TILL.

12.5-14.0m -rhythmically laminated dark grey clay and silty clay with minor silt; couplets 2-3 cms thick; silt laminae 1-2 mms thick; grit and pebble-free; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SILT AND CLAY.

14.0-14.7m -light brownish-grey silty clay with a few grits and pebbles; poorly sorted; appears massive; moderate density and compaction; calcareous; 1% clasts by volume; mainly subangular carbonate clasts up to 0.5 cms diameter; sharp lower contact: KEEWATIN TILL.

14.7-16.5m -grey silt and fine sand with some pebbles; water saturated and disturbed; moderate sorting; stratified; pebble-content increases towards the base; non-calcareous; pebbles subrounded and up to 1.0 cm diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE-GLACIOFLUVIAL SAND AND SILT.

16.5-21.4m -light grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density and compaction; slightly calcareous; 10% clasts by volume; mainly subangular-subrounded felsic-intermediate intrusives and mafic extrusives up to 10 cms diameter; sharp lower contact: LABRADOREAN TILL.

21.4-21.6m -grey fine-medium sand; moderate sorting; appears massive; non-calcareous; pebble-free; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

21.6-32.0m -same as from 16.5-21.4m; greywackes and mafic intrusives increase in the pebble fraction; sharp lower contact: LABRADOREAN TILL.

32.0-33.7m -grey very fine to medium sand with a few pebbles near the unit base; moderate-well sorted; appears massive; loose and water saturated; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

33.7-40.0m -same as from 16.5-21.4m; sharp lower contact: LABRADOREAN TILL.

40.0-40.8m -grey pebbly medium sand grading to fine sand; moderate-well sorted; appears massive; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

40.8-42.7m -same as from 16.5-21.4m; denser and more compact; contains numerous faceted and striated clasts; greywackes increase in the pebble fraction; sharp lower contact: LABRADOREAN TILL.

42.7-44.1m -weathered bedrock; banded, highly metamorphosed, mafic rock; (gabbro?): BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-34-01	5.0		F88-34-10	24.8	26.6
F88-34-02	12.5		F88-34-11	26.6	28.4
F88-34-03	14.7		F88-34-12	28.4	30.1
F88-34-04	16.5	17.6	F88-34-13	30.1	32.0
F88-34-05	17.6	18.8	F88-34-14	32.0	33.7
F88-34-06	18.8	20.0	F88-34-15	33.7	37.6
F88-34-07	20.0	21.2	F88-34-16	37.6	40.0
F88-34-08	21.2	23.0	F88-34-17	40.8	42.0
F88-34-09	23.0	24.8	F88-34-18	42.0	42.7

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-34-01	W	TILL	49.0	36.0	15.0	41.1	0.59
F88-34-02	W	TILL	45.0	34.0	21.0	34.3	0.66
F88-34-03	W	TILL	12.0	38.0	50.0	18.8	1.64
F88-34-04	NE	TILL	74.0	19.0	7.0	4.4	0.49
F88-34-05	NE	TILL	70.0	24.0	6.0	4.4	0.49
F88-34-06	NE	TILL	69.0	25.0	6.0	4.0	0.41
F88-34-07	NE	TILL	68.0	26.0	6.0	3.2	0.62
F88-34-08	NE	TILL	74.0	19.0	7.0	3.4	0.48
F88-34-09	NE	TILL	81.0	17.0	2.0	4.6	0.30
F88-34-10	NE	TILL	84.0	16.0	0.0	4.5	0.26
F88-34-11	NE	TILL	83.0	16.0	1.0	4.5	0.22
F88-34-12	NE	TILL	78.0	21.0	1.0	4.5	0.22
F88-34-13	NE	TILL	78.0	20.0	2.0	4.1	0.29
F88-34-15	NE	TILL	91.0	9.0	0.0	4.2	0.33
F88-34-16	NE	TILL	87.0	13.0	0.0	4.1	0.29
F88-34-17	NE	TILL	67.0	29.0	4.0	4.0	0.36
F88-34-18	NE	TILL	66.0	28.0	6.0	2.8	0.28

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-34-04	NE	TILL	347	7.2	21.6	57.9	8.4	0.0	1.2	3.2	0.0	0.0	0.9
F88-34-05	NE	TILL	404	6.9	23.0	57.9	3.5	0.0	6.4	1.6	0.0	0.0	0.8
F88-34-06	NE	TILL	284	4.2	24.3	60.2	8.5	0.0	1.1	1.1	0.0	0.0	0.7
F88-34-07	NE	TILL	342	4.7	15.8	68.1	4.1	0.0	5.8	1.5	0.0	0.0	0.0
F88-34-08	NE	TILL	257	7.0	11.7	70.0	0.4	0.0	7.4	2.7	0.0	0.0	0.8
F88-34-09	NE	TILL	336	2.1	20.5	64.9	8.0	0.0	0.9	2.7	0.0	0.0	0.9
F88-34-10	NE	TILL	371	6.7	19.7	62.8	5.4	0.3	1.9	2.2	0.0	0.0	1.1
F88-34-11	NE	TILL	319	7.8	19.7	59.9	2.8	0.0	5.3	3.1	0.3	0.3	0.6
F88-34-12	NE	TILL	371	8.9	14.6	58.5	0.8	0.0	12.7	3.0	0.0	0.0	1.6
F88-34-13	NE	TILL	291	5.5	13.1	59.1	5.8	0.7	14.1	1.0	0.0	0.0	0.7
F88-34-14	NE	SAND	110	3.6	16.4	73.6	1.8	0.0	2.7	0.9	0.0	0.0	0.9
F88-34-15	NE	TILL	398	4.3	16.8	63.8	10.5	0.0	0.5	2.3	0.3	0.0	1.8
F88-34-16	NE	TILL	339	2.9	13.9	69.0	8.0	0.6	2.4	2.9	0.0	0.0	0.3
F88-34-17	NE	TILL	419	11.2	23.4	47.3	6.0	0.0	8.6	2.4	0.0	0.0	1.2
F88-34-18	NE	TILL	362	3.3	14.1	60.8	4.1	0.0	12.7	2.8	0.0	0.3	1.9

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-34-04	NE	TILL	19	28	27	9	1	8	2		1	2	1		2	4	
F88-34-05	NE	TILL	20	32	28	6	3	8	1		T	1	1		T	T	
F88-34-06	NE	TILL	19	39	26	6	1	6	1		T	1	T		1	3	
F88-34-07	NE	TILL	24	25	25	7	T	11	2		1	2	1		2	6	
F88-34-08	NE	TILL	22	22	26	8	1	17	2		T	1	T		1	1	
F88-34-09	NE	TILL	24	25	30	10	1	6	T		2	1	1		T	3	
F88-34-10	NE	TILL	24	29	21	6	2	16	T	1	1	T	T		T	4	
F88-34-11	NE	TILL	17	23	21	10	1	26	T	T	1	1	T		T	3	
F88-34-12	NE	TILL	27	24	19	3	2	18	1		1	2	1		2	1	
F88-34-13	NE	TILL	16	29	28	10	1	10	4		T	1	T		1	1	
F88-34-14	NE	SAND	23	24	19	8	1	18	1		2	2	T		2	4	
F88-34-15	NE	TILL	15	27	23	7	1	20	1	1	1	1	T		3	2	
F88-34-16	NE	TILL	25	23	26	3	1	19	1	T	T	1	1		T	T	
F88-34-17	NE	TILL	17	23	17	9	1	10	3		T	T	T		20	3	
F88-34-18	NE	TILL	14	37	15	7	2	10	1		1	T		T	13	5	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-34-04	NE	TILL	10.6	1.3	9.3	306.2	250.8	55.4	43.1	12.3
F88-34-05	NE	TILL	11.5	1.4	10.1	298.4	248.5	49.9	37.7	12.2
F88-34-06	NE	TILL	11.3	1.0	10.3	333.9	280.4	53.5	39.9	13.6
F88-34-07	NE	TILL	12.4	1.3	11.1	303.8	256.4	47.4	34.3	13.1
F88-34-08	NE	TILL	11.3	1.2	10.1	292.3	232.2	60.1	44.8	15.3
F88-34-09	NE	TILL	12.4	1.6	10.8	313.1	257.3	55.8	42.9	12.9
F88-34-10	NE	TILL	12.0	1.8	10.2	298.5	245.4	53.1	38.5	14.6
F88-34-11	NE	TILL	11.2	1.7	9.5	296.2	243.0	53.2	38.6	14.6
F88-34-12	NE	TILL	12.0	1.7	10.3	216.4	162.6	53.8	38.2	15.6
F88-34-13	NE	TILL	11.0	1.8	9.2	227.1	171.8	55.3	41.4	13.9
F88-34-14	NE	SAND	10.9	0.6	10.3	221.2	151.1	70.1	54.8	15.3
F88-34-15	NE	TILL	12.3	1.7	10.6	232.4	173.2	59.2	43.1	16.1
F88-34-16	NE	TILL	12.0	1.9	10.1	224.3	179.1	45.2	32.8	12.4
F88-34-17	NE	TILL	11.0	2.3	8.7	321.5	257.1	64.4	57.0	7.4
F88-34-18	NE	TILL	9.5	1.0	8.5	275.3	224.6	50.7	46.8	3.9

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-34-01G	-1	3.0	0.2	2	-0.1	9.8	11	26.8	11	60	3	368		
F88-34-02G	-1	2.5	0.2	2	-0.1	12.4	9	35.5	14	39	5	374		
F88-34-03G	-1	2.5	-0.2	2	-0.1	17.0	10	46.1	23	74	8	506		
F88-34-04G	1	1.0	0.2	-1	-0.1	13.2	6	22.6	12	79	6	420		
F88-34-05G	-1	1.0	0.2	-1	-0.1	16.2	7	25.3	16	177	7	460		
F88-34-06G	-1	1.0	-0.2	2	-0.1	14.9	5	22.6	15	92	6	404		
F88-34-07G	6	1.0	-0.2	1	-0.1	13.2	6	19.3	14	91	6	408		
F88-34-08G	-1	1.0	-0.2	-1	-0.1	9.5	4	15.6	9	70	4	430		
F88-34-09G	-1	0.5	-0.2	-1	0.1	6.9	4	11.9	7	84	3	442		
F88-34-10G	-1	0.5	0.3	-1	-0.1	6.2	6	12.6	8	95	4	420		
F88-34-11G	-1	0.5	0.2	-1	-0.1	6.9	4	13.3	7	73	4	378		
F88-34-12G	3	1.0	0.2	-1	-0.1	8.3	5	13.1	8	63	4	344		
F88-34-13G	-1	1.0	0.2	-1	-0.1	7.1	5	12.2	8	96	3	400		
F88-34-15G	-1	1.0	0.2	-1	-0.1	5.8	3	11.9	7	74	3	420		
F88-34-16G	-1	1.0	0.2	-1	-0.1	7.8	4	14.3	10	70	3	410		
F88-34-17G	-1	1.0	0.2	2	-0.1	28.2	4	30.5	20	108	10	426		
F88-34-18G	1	1.0	0.2	2	0.1	25.5	4	28.3	19	65	8	394		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-34-04H	55	95	10	0.5	2	-0.1	45.9	18	39.4	21	310	29	26		
F88-34-05H	69	53	11	0.4	2	-0.1	45.7	19	41.5	22	336	31	26		
F88-34-06H	53	109	10	0.5	2	-0.1	48.1	18	32.2	20	338	30	23		
F88-34-07H	29	10	9	0.4	2	-0.1	53.2	19	30.4	23	359	35	23		
F88-34-08H	150	384	7	0.4	2	-0.1	35.7	21	29.3	22	330	26	17		
F88-34-09H	73	102	6	0.4	2	-0.1	28.3	20	26.0	19	342	20	17		
F88-34-10H	130	115	8	0.4	3	0.2	37.8	20	29.1	22	341	25	20		
F88-34-11H	190	3	8	0.3	2	-0.1	31.7	19	29.1	22	369	24	26		
F88-34-12H	83	187	9	0.3	2	-0.1	44.8	21	30.0	24	431	26	20		
F88-34-13H	50	28	7	0.5	1	-0.1	29.2	18	32.0	21	362	20	23		
F88-34-14H	56	52	6	0.5	2	-0.1	23.4	19	25.6	18	324	18	15		
F88-34-15H	100	179	7	0.5	2	-0.1	30.5	18	27.6	24	403	22	23		
F88-34-16H	190	65	6	0.4	2	-0.1	32.8	19	25.7	19	321	19	23		
F88-34-17H	170	778	12	0.4	4	0.2	75.4	18	76.7	55	206	55	47		
F88-34-18H	190	168	8	0.4	3	0.1	71.0	20	75.7	51	244	52	35		

Gold Grain Data

NUMBER OF GRAINS

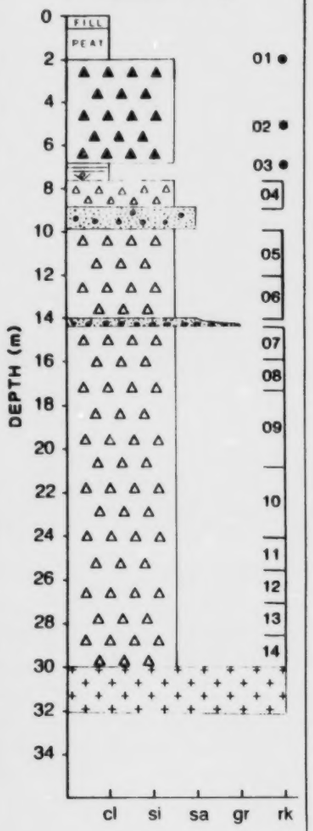
SAMPLE NO.	DIAMETER	ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-34-04	NO VISIBLE GOLD								
F88-34-05	NO VISIBLE GOLD								
F88-34-06	25 X 25				1			1	EST. 0.1% PYRITE
	25 X 50	1			1			2	
	100 X 150	1						1	
								4	
F88-34-07	25 X 50	1	1					2	EST. 0.1% PYRITE
	50 X 50		1					1	
	50 X 75		2		1			3	
	75 X 100		1					1	
	100 X 150		1					1	
								8	
F88-34-08	25 X 25		3					3	EST. 0.5% PYRITE
	25 X 50		1					1	
	50 X 50		3					3	
	50 X 75		2					2	
								9	
F88-34-09	25 X 25		2		1			3	EST. 0.5% PYRITE
	25 X 50	1						1	
	50 X 50	1	2					3	
	75 X 100	2						2	
	75 X 125		1					1	
	100 X 125	1						1	
	125 X 125			1				1	
								12	
F88-34-10	25 X 25		1					1	EST. 0.1% PYRITE
	50 X 50		2					2	
	50 X 75		1					1	
	50 X 100		1					1	
	75 X 100		1					1	
	125 X 175		1					1	
								7	
F88-34-11	75 X 75		1					1	EST. 0.1% PYRITE
	75 X 100		1					1	
	100 X 100		1					1	
	100 X 125		1					1	
	100 X 150		1					1	
								5	
F88-34-12	50 X 75		1					1	EST. 0.1% PYRITE
								1	
F88-34-13	NO VISIBLE GOLD								
F88-34-14	NO VISIBLE GOLD								
F88-34-15	25 X 25		2					2	EST. 0.1% PYRITE
	25 X 50		1					1	
	50 X 75		1					1	
	50 X 100		1					1	
	75 X 100		1					1	
	75 X 125		1					1	
								7	
F88-34-16	25 X 25		2					2	EST. 0.1% PYRITE
	25 X 50		1					1	
	50 X 50		1					1	
	75 X 75		1					1	
	75 X 125		1					1	
	150 X 150		1					1	
								7	
F88-34-17	25 X 50				1			1	EST. 0.1% PYRITE
	50 X 75	1			1			2	
	125 X 225	1						1	
								4	
F88-34-18	50 X 150		1					1	EST. 1% PYRITE
	75 X 100			1				1	
	75 Y 125				1			1	
	100 X 125	1						1	
	125 X 125	1						1	
								5	

Sonic Borehole Number: F88-35

Township: Atwood **Collar Elevation:** 336 m

UTM Coordinates: 5407400 383350 m E

Graphic Log:



Descriptive Log:

0.0-0.5m -FILL.

0.5-2.0m -PEAT.

2.0-6.8m -light bluish-grey grading to mottled orangy-brown, brownish-grey, and greyish-brown silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density and compaction; calcareous; reduced at surface; oxidized at base; 5% clasts by volume; mainly subrounded carbonate clasts up to 3-4 cms diameter; sharp lower contact: KEEWATIN TILL.

6.8-7.6m -dark greyish-brown clay with minor light greenish-grey silt; a few pebbles up to 2 cms diameter; well laminated; slightly calcareous; sharp lower contact; LABRADOREAN-DERIVED GLACIO-LACUSTRINE CLAY AND SILT.

7.6-8.9m -light brownish-grey silty very fine sand with numerous grits and pebbles; appears massive; poorly sorted; loose to moderate compaction; 10-15% clasts by volume; mainly subrounded-subangular felsic-intermediate intrusives, greywackes, mafic extrusives, and mafic intrusives up to 6-7 cms diameter; sharp lower contact: LABRADOREAN TILL.

8.9-9.9m -grey pebbly fine-medium sand; poor-moderate sorting; appears massive; loose; non-calcareous; subangular-subrounded pebbles up to 1 cm diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

9.9-14.0m -same as from 7.6-8.9m; moderate density and compaction; mainly felsic-intermediate intrusives and mafic extrusives; sharp lower contact: LABRADOREAN TILL.

14.0-14.4m -grey fine-medium sand grading to pebble gravel; moderate sorting; crudely bedded; loose; non-calcareous; subangular pebbles up to 3-4 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL.

14.4-30.0m -same as from 9.9-14.0m; clasts up to 15 cms diameter; moderate-high compaction; sharp lower contact; LABRADOREAN TILL.

30.0-32.1m -dark green, medium grained, equigranular gabbro: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-35-01	2.0		F88-35-08	15.9	17.3
F88-35-02	5.0		F88-35-09	17.3	20.8
F88-35-03	6.8		F88-35-10	20.8	24.0
F88-35-04	7.6	8.9	F88-35-11	24.0	25.5
F88-35-05	9.9	12.0	F88-35-12	25.5	27.0
F88-35-06	12.0	14.0	F88-35-13	27.0	28.5
F88-35-07	14.4	15.9	F88-35-14	28.5	30.0

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-35-01	W	TILL	47.0	35.0	18.0	40.4	0.72
F88-35-02	W	TILL	45.0	34.0	21.0	36.6	0.61
F88-35-03	W	TILL	40.0	36.0	24.0	31.6	0.65
F88-35-04	NE	TILL	89.0	11.0	0.0	2.4	0.37
F88-35-05	NE	TILL	77.0	21.0	2.0	2.5	0.56
F88-35-06	NE	TILL	80.0	18.0	2.0	2.1	0.33
F88-35-07	NE	TILL	82.0	16.0	2.0	2.8	0.44
F88-35-08	NE	TILL	86.0	12.0	2.0	3.1	0.45
F88-35-09	NE	TILL	83.0	15.0	2.0	3.6	0.31
F88-35-10	NE	TILL	78.0	19.0	3.0	3.1	0.24
F88-35-11	NE	TILL	65.0	31.0	4.0	3.4	0.34
F88-35-12	NE	TILL	74.0	23.0	3.0	3.0	0.50
F88-35-13	NE	TILL	78.0	18.0	4.0	3.1	0.45
F88-35-14	NE	TILL	72.0	24.0	4.0	3.4	0.34

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO.PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-35-04	NE	TILL	412	13.3	18.2	50.0	1.2	0.2	16.0	0.2	0.0	0.0	0.7
F88-35-05	NE	TILL	381	4.5	17.3	69.0	3.1	0.5	3.9	0.8	0.3	0.0	0.5
F88-35-06	NE	TILL	400	3.0	22.3	66.3	5.3	0.0	1.0	2.0	0.0	0.0	0.3
F88-35-07	NE	TILL	335	2.4	16.1	77.0	0.9	0.0	3.3	0.3	0.0	0.0	0.0
F88-35-08	NE	TILL	251	4.8	8.8	77.3	0.0	0.0	8.8	0.0	0.0	0.0	0.4
F88-35-09	NE	TILL	337	11.3	11.3	65.3	0.0	0.6	9.5	1.2	0.0	0.0	0.9
F88-35-10	NE	TILL	403	10.7	10.7	63.8	0.0	0.3	11.4	1.0	0.0	0.0	2.2
F88-35-11	NE	TILL	368	4.3	18.2	68.2	4.1	2.4	0.3	1.1	0.0	0.0	1.4
F88-35-12	NE	TILL	359	19.5	10.9	52.6	0.0	0.3	14.7	0.6	0.0	0.0	1.4
F88-35-13	NE	TILL	314	5.7	14.6	64.3	0.0	1.0	13.1	0.3	0.0	0.0	1.0
F88-35-14	NE	TILL	420	4.5	15.7	72.6	4.3	0.7	1.0	0.5	0.0	0.2	0.5

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-35-04	NE	TILL	21	27	29	5	2	5	3		2	1	1		4	3	
F88-35-05	NE	TILL	21	24	22	10	4	11	4	T	T	3	1		T	4	
F88-35-06	NE	TILL	23	26	18	6	7	17	1		1	1	T		T	1	
F88-35-07	NE	TILL	19	32	26	13	1	7	1		T	1	T	T		T	
F88-35-08	NE	TILL	26	35	26	4	T	7	1		T	1	T			1	
F88-35-09	NE	TILL	21	33	24	7	T	11	T		T	2	1	T	1	1	
F88-35-10	NE	TILL	20	36	11	11	5	12	2	1	T	2	T			8	
F88-35-11	NE	TILL	17	51	16	3	5	7	1			T	T			5	
F88-35-12	NE	TILL	17	43	19	8	4	6	2	1	T	T	T			5	
F88-35-13	NE	TILL	20	27	22	11	6	11	1	T	1	1	T			7	
F88-35-14	NE	TILL	18	42	12	8	5	12	1	T	T	2	T			4	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-35-04	NE	TILL	11.9	1.5	10.4	260.0	239.6	20.4	14.3	6.1
F88-35-05	NE	TILL	0.9	1.3	-0.4	240.5	209.5	31.0	21.8	9.2
F88-35-06	NE	TILL	11.4	1.2	10.2	144.5	110.8	33.7	24.7	9.0
F88-35-07	NE	TILL	10.5	1.0	9.5	257.9	217.7	40.2	30.6	9.6
F88-35-08	NE	TILL	8.2	0.7	7.5	140.5	107.4	33.1	26.8	6.3
F88-35-09	NE	TILL	11.1	1.2	9.9	291.5	247.7	43.8	33.4	10.4
F88-35-10	NE	TILL	11.5	1.7	9.8	264.8	211.2	53.6	41.4	12.2
F88-35-11	NE	TILL	10.9	2.0	8.9	332.4	288.1	44.3	34.9	9.4
F88-35-12	NE	TILL	10.5	1.8	8.7	257.7	208.5	49.2	40.2	9.0
F88-35-13	NE	TILL	10.6	2.0	8.6	322.6	281.5	41.1	30.8	10.3
F88-35-14	NE	TILL	10.3	1.6	8.7	314.9	274.3	40.6	31.5	9.1

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-35-04	50 X 50	1						1	EST. 5% PYRITE
	50 X 75		1					1	
	50 X 100		1					1	
	75 X 75	1	1					2	
	100 X 100	1						1	
	125 X 125	1						1	
								7	
F88-35-05	25 X 25	1						1	EST. 1% PYRITE
	25 X 50		2					2	
	25 X 75		1					1	
	50 X 50	2						2	
	50 X 75	1	1	1				3	
	50 X 100	2						2	
	75 X 75		1					1	
	75 X 125	1						1	
	75 X 200	1						1	
								14	
F88-35-06	50 X 75	1						1	EST. 2% PYRITE
	50 X 100		1					1	
	75 X 100	1	1					2	
								4	
F88-35-07	25 X 50		1					1	EST. 2% PYRITE
	50 X 50	1						1	
	200 X 225	1						1	
								3	
F88-35-08	50 X 50		5					5	EST. 0.5% PYRITE
	75 X 125	1						1	
	100 X 100		1					1	
								7	
F88-35-09	50 X 50		1					1	EST. 2% PYRITE
	50 X 150		1					1	TRACE ARSENOPYRITE
	75 X 125	1						1	
	125 X 175	1						1	
								4	
F88-35-10	NO VISIBLE GOLD								
F88-35-11	125 X 150	1						1	EST. 0.1% PYRITE 15 GRAINS NATIVE COPPER SIZE RANGE 50 TO 200 MICRONS
								1	
F88-35-12	25 X 25	1						1	EST. 0.5% PYRITE
	50 X 75	2						2	8 GRAINS NATIVE COPPER
	50 X 100	1						1	SIZE RANGE 50 TO 175 MICRONS
	75 X 100	1						1	
								5	
F88-35-13	25 X 25	1	1					2	EST. 0.5% PYRITE
	25 X 50	1						1	15 GRAINS NATIVE COPPER
	50 X 50	1	1					2	SIZE RANGE 50 TO 150 MICRONS
	50 X 75		2					2	
	75 X 75	1						1	
								8	
F88-35-14	50 X 50		1					1	EST. 0.5% PYRITE
	100 X 150	1						1	10 GRAINS NATIVE COPPER
								2	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-35-01G	4	2.0	0.3	3	-0.1	10.9	7	24.7	11	38	4	386		
F88-35-02G	-1	2.0	0.3	3	-0.1	10.8	9	26.2	13	59	5	408		
F88-35-03G	-1	2.0	0.4	2	-0.1	13.9	9	35.4	16	48	6	408		
F88-35-04G	-1	1.0	0.2	-1	-0.1	6.4	4	10.8	6	52	2	404		
F88-35-05G	9	1.0	0.2	-1	-0.1	6.4	4	11.5	7	57	4	420		
F88-35-06G	7	1.0	0.2	-1	-0.1	7.3	4	13.4	6	59	3	460		
F88-35-07G	1	0.5	0.2	-1	-0.1	9.1	3	14.2	8	67	3	448		
F88-35-08G	-1	0.5	0.2	1	-0.1	9.3	3	21.7	12	90	5	650		
F88-35-09G	-1	0.5	0.2	-1	-0.1	7.8	4	12.3	7	77	4	458		
F88-35-10G	-1	1.0	0.2	1	0.2	10.9	5	19.7	12	113	6	482		
F88-35-11G	9	1.0	0.2	-1	-0.1	24.3	5	27.2	24	115	9	528		
F88-35-12G	15	1.0	0.2	1	-0.1	19.4	4	27.5	21	159	8	422		
F88-35-13G	1	1.0	0.2	-1	-0.1	23.6	5	19.4	16	108	6	428		
F88-35-14G	3	1.0	0.2	-1	-0.1	20.5	5	21.8	17	90	6	418		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-35-04H	260	IS	20	0.5	3	0.1	68.6	22	32.8	41	297	97	20		
F88-35-05H	250	407	23	0.3	2	-0.1	48.8	19	26.9	24	301	44	33		
F88-35-06H	95	123	7	0.2	1	-0.1	34.9	20	23.7	21	491	34	11		
F88-35-07H	180	47	6	0.4	2	-0.1	30.5	15	23.5	19	315	26	20		
F88-35-08H	76	108	5	0.3	3	-0.1	28.8	15	23.1	20	366	21	17		
F88-35-09H	94	97	5	0.3	2	-0.1	37.6	17	28.1	20	335	27	29		
F88-35-10H	35	20	6	0.2	3	-0.1	33.9	14	27.3	20	314	27	23		
F88-35-11H	54	57	7	0.3	1	-0.1	57.7	18	24.2	23	309	27	23		
F88-35-12H	50	67	8	0.4	1	-0.1	93.3	15	19.9	20	365	21	17		
F88-35-13H	84	214	7	0.3	2	-0.1	41.3	21	21.5	21	407	25	23		
F88-35-14H	82	22	6	0.4	2	-0.1	82.9	18	19.8	23	326	23	37		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

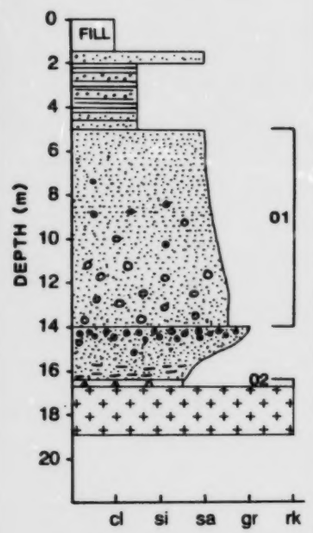
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-36

Township: Spohn **Collar Elevation:** 332 m

UTM Coordinates: 5412400 m N 383650 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -FILL.

1.5-2.0m -light buff and yellowish-brown very fine sand with a few small grits; moderate-well sorted; appears massive to faintly laminated; loose; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SAND.

2.0-5.0m -dark greyish-brown clay, silty clay and silty clay with a few grits and small pebbles and light grey silt and very fine sand; massive to well laminated; moderate sorting; grit and pebble-free near base; calcareous; sharp lower contact: KEEWATIN-DERIVED GLACIOLACUSTRINE SAND, SILT, AND CLAY.

5.0-14.0m -grey fine-very fine sand grading to gravelly fine-medium sand; some silt-rich horizons; moderate-poor sorting; crudely bedded; non-calcareous; mainly subrounded felsic-intermediate intrusives and mafic extrusives up to 5 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

14.0-16.4m -grey pebble gravel grading to silty fine-very fine sand and sandy silt; appears massive to crudely bedded; poor sorting; loose; non-calcareous; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL.

16.4-16.7m -dark greenish-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate-high density and compaction; non-calcareous; 5-10% clasts by volume; mainly subangular felsic-intermediate intrusives and mafic extrusives up to 6.7 cms diameter; sharp lower contact: LABRADOREAN TILL.

16.7-18.9m -black, fine-medium grained, equigranular, amphibolitized mafic volcanic: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-36-01	5.0	14.0
F88-36-02	16.4	16.7

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO.PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-36-01	NE	SAND	383	5.7	19.6	67.4	5.0	0.0	0.0	1.8	0.0	0.0	0.5
F88-36-02	NE	TILL	243	1.6	35.4	53.9	3.7	0.0	3.3	1.2	0.0	0.0	0.8

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-36-01	NE	SAND	23	22	18	11	6	15	1	1	T	1	1		1	7	
F88-36-02	NE	TILL	20	26	27	6	4	7	2	T	1	3		4		4	TRACE NATIVE COPPER

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	NON MAG	MAG
F88-36-01	NE	SAND	11.7	1.2	10.5	291.3	235.4	55.9	38.9	17.0
F88-36-02	NE	TILL	7.2	0.8	6.4	315.5	294.7	20.8	16.5	4.3

Gold Grain Data

SAMPLE NO.	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-36-01	25 X 25		1					1	EST. 1% PYRITE
	25 X 50		1					1	3 GRAINS NATIVE COPPER
	50 X 75	1	3					4	SIZE RANGE 50 TO 75 MICRONS
	75 X 75		1					1	
	75 X 100	1						1	
	125 X 200	1						1	
								9	
F88-36-02	25 X 25		1					1	EST. 0.5% PYRITE
	25 X 50		2					2	450 GRAINS NATIVE COPPER
	50 X 50		1		2			3	25X25 TO 700X800 MICRONS
								6	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-36-01H	200	804	10	0.3	2	-0.1	41.2	17	24.1	23	310	38	40		
F88-36-02H	78	75	6	0.5	3	-0.1	4560.0	31	37.3	22	328	21	43		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

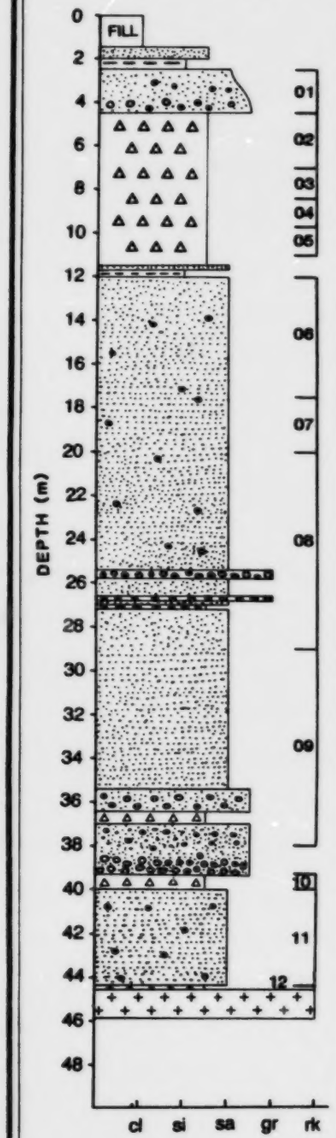
Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

Sonic Borehole Number: F88-37

Township: Atwood **Collar Elevation: 326 m**

UTM Coordinates: 5413300 m N 380100 m E

Graphic Log:



Descriptive Log:

0.0-1.5m -FILL.

1.5-2.5m -mottled light orangy-brown and buff-grey silty very fine sand grading to silt; grit and pebble-free; well sorted and laminated; oxidized; calcareous; sharp lower contact: EMERSON PHASE GLACIOLACUSTRINE SAND AND SILT.

2.5-4.5m -light buff brown, orangy-brown, and buff grey fine sand grading to gravelly medium sand; moderate-well sorted; crudely bedded; <5% clasts by volume; clasts subrounded and up to 7 cms diameter; non-calcareous; sharp lower contact; LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

4.5-11.5m -light buff grey grading to dark grey silty very fine sand with numerous grits and pebbles; appears massive except for a pebbly fine sand layer 10 cms thick at 5.8m; poorly sorted; moderate density and compaction; compaction increases downward; non-calcareous; 5% clasts by volume; mainly subangular-subrounded felsic-intermediate intrusives and mafic extrusives up to 10 cms diameter; sharp lower contact; LABRADOREAN TILL.

11.5-12.0m -light grey silt and pebbly fine sand and dark grey clayey silt; moderate sorting; massive to well laminated; non-calcareous; pebbles subrounded and up to 1 cm diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOLACUSTRINE SAND, SILT, AND CLAY.

12.0-36.5m -alternating light orangy-brown, greyish-brown, brownish-grey, greenish grey, and grey very fine-medium sand with minor gravel; a few thin silt horizons present; some gravelly zones present (25.4-25.8m; 26.6-26.8m); well sorted; loose and soft; crudely bedded; non-calcareous; mainly subrounded pebbles up to 5 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

36.5-37.0m -greenish-grey silty very fine sand with numerous grits and pebbles; massive; poorly sorted; moderate-low density and compaction; non-calcareous; 5-10% clasts by volume; mainly subangular felsic-intermediate intrusives and mafic extrusives up to 4-5 cms diameter; sharp lower contact: LABRADOREAN-DERIVED DIAMICTON.

37.0-39.3m -greenish-brown to grey gravelly fine-medium sand grading to sandy gravel; poor-moderate sorting; crudely bedded; loose and soft; non-calcareous; gravel contains 70% clasts by volume; mainly subrounded felsic-intermediate intrusives and mafic extrusives up to 5 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND AND GRAVEL.

39.3-40.0m -same as from 36.5-37.0m; sharp lower contact: LABRADOREAN-DERIVED DIAMICTON.

40.0-44.4m -buff grey very fine-medium sand with minor gravel; well sorted and stratified; loose; non-calcareous; mainly subrounded pebbles up to 3-4 cms diameter; sharp lower contact: LABRADOREAN-DERIVED GLACIOFLUVIAL SAND.

44.4-44.5m -dark greenish-grey silty very fine sand with numerous grits and pebbles; poorly sorted; appears massive; moderate density and compaction; non-calcareous; 10% clasts by volume; mainly subangular weathered gabbroic clasts up to 4 cms diameter; sharp lower contact: LABRADOREAN TILL.

44.5-45.9m -dark green, weathered, equigranular gabbro: BEDROCK.

Sample Intervals

SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER	SAMPLE NUMBER	SAMPLE INTERVAL (M) UPPER	LOWER
F88-37-01	2.5	4.5	F88-37-07	17.5	20.0
F88-37-02	4.5	7.0	F88-37-08	20.0	29.0
F88-37-03	7.0	8.4	F88-37-09	29.0	38.0
F88-37-04	8.4	9.7	F88-37-10	39.3	40.0
F88-37-05	9.7	11.0	F88-37-11	40.0	44.4
F88-37-06	12.0	17.5	F88-37-12	44.4	44.5

Till Texture (-2mm) & Carbonate Content (-0.074mm)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
F88-37-02	NE	TILL	75.0	21.0	4.0	2.3	0.40
F88-37-03	NE	TILL	78.0	18.0	4.0	2.8	0.37
F88-37-04	NE	TILL	78.0	18.0	4.0	2.6	0.43
F88-37-05	NE	TILL	81.0	16.0	3.0	3.0	0.48
F88-37-12	NE	TILL	72.0	20.0	8.0	4.8	0.31

Pebble Lithology Data (+4.75mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
F88-37-01	NE	SAND	266	4.5	19.5	65.5	2.3	1.1	2.6	2.6	1.1	0.4	0.4
F88-37-02	NE	TILL	289	6.6	12.5	72.7	3.8	1.0	1.4	1.4	0.0	0.0	0.7
F88-37-03	NE	TILL	174	8.0	13.8	70.1	2.3	0.0	4.6	0.0	0.6	0.0	0.6
F88-37-04	NE	TILL	238	6.3	11.8	71.4	4.6	0.0	4.6	0.8	0.0	0.0	0.4
F88-37-05	NE	TILL	225	9.3	21.3	61.0	3.1	1.8	1.8	1.3	0.0	0.0	0.4
F88-37-06	NE	SAND	184	2.2	12.0	77.7	3.3	0.5	2.2	1.6	0.5	0.0	0.0
F88-37-08	NE	SAND	13	7.7	0.0	61.5	0.0	7.7	15.4	0.0	0.0	0.0	7.7
F88-37-09	NE	SAND	283	13.1	22.3	48.1	4.9	0.4	6.7	2.5	0.7	0.0	1.4
F88-37-10	NE	TILL	338	10.1	23.1	50.6	5.9	0.0	4.1	3.3	0.0	0.3	2.7
F88-37-11	NE	SAND	451	12.4	18.2	52.5	8.6	0.2	2.7	4.0	0.2	0.0	1.1

Mineralogy of -2mm Non-magnetic Heavy Mineral Concentrate

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF	REMARKS
F88-37-01	NE	SAND	32	24	20	8	3	9	T	T	T	3	T	T	1	5	
F88-37-02	NE	TILL	24	22	25	5	5	18	T	1	T	T	T	T		9	
F88-37-03	NE	TILL	27	20	25	8	4	11	1	T	1	2	T	T	1	10	
F88-37-04	NE	TILL	24	32	22	8	3	7	2	1		T	T	T	1	8	
F88-37-05	NE	TILL	28	24	17	10	5	10	1	1	1	3				5	
F88-37-06	NE	SAND	25	22	23	5	7	12	2	T	T	1	1	1	1	8	
F88-37-07	NE	SAND	42	21	16	3	1	13		1	2	T	T	T	1	2	
F88-37-08	NE	SAND	42	25	18	4	1	7		1	1	1	T	T		3	
F88-37-09	NE	SAND	24	38	18	2	T	13	T		3	1			1	3	
F88-37-10	NE	TILL	14	21	20	5		7	1		1	T			31	4	
F88-37-11	NE	SAND	19	17	14	10		8	11		1	T			20	3	

Heavy Mineral Weight Data (-2mm)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
F88-37-01	NE	SAND	10.2	1.4	8.8	237.4	200.7	36.7	25.4	11.3
F88-37-02	NE	TILL	10.1	1.0	9.1	296.0	254.3	41.7	29.0	12.7
F88-37-03	NE	TILL	8.7	0.6	8.1	338.8	304.9	33.9	23.8	10.1
F88-37-04	NE	TILL	10.1	0.8	9.3	252.2	208.8	43.4	30.1	13.3
F88-37-05	NE	TILL	9.5	0.7	8.8	215.4	174.3	41.1	28.7	12.4
F88-37-06	NE	SAND	11.1	0.6	10.5	175.3	139.2	36.1	23.2	12.9
F88-37-07	NE	SAND	9.8	0.1	9.7	143.7	115.7	28.0	18.9	9.1
F88-37-08	NE	SAND	10.4	0.1	10.3	186.7	156.1	30.6	22.2	8.4
F88-37-09	NE	SAND	10.3	0.9	9.4	225.7	193.0	32.7	27.2	5.5
F88-37-10	NE	TILL	9.1	1.7	7.4	187.6	133.4	54.2	47.2	7.0
F88-37-11	NE	SAND	10.3	1.8	8.5	260.7	198.2	62.5	57.2	5.3

Gold Grain Data

NUMBER OF GRAINS

SAMPLE NO.	DIAMETER	ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL	REMARKS
F88-37-01	25 X 25						1	1	EST. TRACE PYRITE
	25 X 50		1					1	80 GRAINS NATIVE COPPER
	50 X 50		1					1	25X25 TO 100X100 MICRONS
	50 X 75		1					1	
	75 X 75		1					1	
	75 X 100	1						1	
	75 X 200	1						1	
								7	
F88-37-02	25 X 50				1		3	4	EST. TRACE PYRITE
	50 X 50						1	1	25 GRAINS NATIVE COPPER
	75 X 100	1						1	25X25 TO 100X100 MICRONS
								6	
F88-37-03	25 X 25		2					2	EST. 0.5% PYRITE
	50 X 50		1					1	
	50 X 100	1						1	
	75 X 125	1						1	
								5	
F88-37-04	25 X 25		1					1	EST. 1% PYRITE
	25 X 50						1	1	
	50 X 50	1						1	
								3	
F88-37-05	25 X 25		1					1	EST. 1% PYRITE
	25 X 75	1						1	
	50 X 75		2					2	
	75 X 100		1					1	
	75 X 125		1					1	
	100 X 100		1					1	
								7	
F88-37-06	NO VISIBLE GOLD								NO SULPHIDES
F88-37-07	25 X 50		1					1	
	75 X 75	1						1	
	100 X 100	1						1	
								3	
F88-37-08	25 X 50		1					1	NO SULPHIDES
	50 X 50		1					1	
	50 X 100	1						1	
								3	
F88-37-09	NO VISIBLE GOLD								
F88-37-10	25 X 25		1					1	EST. 3% PYRITE
	75 X 125		1					1	1000 MARCASITE PELLETS
	100 X 125	1						1	
	125 X 150	2						2	
	175 X 200	2						2	
								7	
F88-37-11	25 X 75		1					1	EST. 1% PYRITE
	50 X 50		1					1	1% MARCASITE
	75 X 100	1	1					2	
	100 X 175		1					1	
								5	

Sample Geochemistry of -0.063mm Fraction

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-37-02G	2	1.0	0.2	-1	-0.1	14.7	6	21.4	12	56	5	434		
F88-37-03G	2	1.5	0.2	1	-0.1	11.1	6	20.3	12	87	5	504		
F88-37-04G	2	1.0	0.2	1	-0.1	9.5	5	15.9	10	59	4	618		
F88-37-05G	-1	1.5	0.2	1	-0.1	9.7	4	17.4	12	48	4	358		
F88-37-12G	1	1.0	0.2	1	-0.1	30.4	11	72.2	83	312	17	764		

Sample Geochemistry of -2mm Non-magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
F88-37-01H	190	363	2	0.4	2	-0.1	37.3	21	19.3	8	343	6	43		
F88-37-02H	63	136	4	0.4	2	-0.1	30.4	25	20.1	12	373	6	40		
F88-37-03H	83	62	8	0.9	1	-0.1	39.3	19	28.5	17	292	27	37		
F88-37-04H	51	104	8	0.3	1	-0.1	33.6	18	22.7	16	283	31	40		
F88-37-05H	120	273	8	0.3	2	-0.1	37.6	15	23.9	15	362	27	61		
F88-37-06H	96	110	10	0.3	2	-0.1	19.4	19	16.6	12	488	24	46		
F88-37-07H	110	38	-3	0.5	1	0.3	8.9	26	15.2	5	486	7	38		
F88-37-08H	82	50	-2	0.4	2	-0.1	10.1	22	19.1	5	401	6	38		
F88-37-09H	53	92	4	0.3	2	-0.1	17.1	15	22.7	13	422	13	61		
F88-37-10H	370	64	15	0.3	2	-0.1	50.0	19	99.7	48	297	48	71		
F88-37-11H	65	116	11	-0.2	4	0.1	40.3	18	110.5	42	180	45	71		

Sample Geochemistry of -2mm Magnetic Heavy Mineral Concentrate

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)

DATASHEETS

Datasheet Series B. Surface Samples

Datasheets were constructed to summarize the analytical data collected from surface till samples (Datasheet Series B). Analytical data presented in the datasheets consist of till texture and carbonate content, pebble lithology data, mineralogy of the non-magnetic heavy mineral fraction, heavy mineral weight data, gold grain data and sample geochemical results for the silt and clay fraction and the non-magnetic heavy mineral fraction. The reader is referred to the legend for the borehole datasheets to assist with the short forms used in the tables.

Till Texture (-2 mm) & Carbonate Content (-0.074 mm) (Surface Samples)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
AV-032A	W	TILL	55.0	37.0	8.0	39.8	0.17
AV-032B	W	TILL	14.0	34.5	51.5	29.0	0.81
AV-035	W	TILL	22.0	47.5	30.5	41.8	0.43
AV-068L	NE	TILL	92.0	7.5	0.5	7.9	0.17
AV-068U	W	TILL	2.5	61.5	36.0	34.0	0.21
AV-110	W	TILL	38.5	43.5	18.0	33.5	0.31
AV-214	NE	TILL	65.5	24.5	10.0	4.9	0.19
AV-29	W	TILL	24.0	51.0	25.0	41.2	0.25
AV-310	W	TILL	18.0	44.0	38.0	43.5	0.57
AV-332	W	TILL	2.0	68.0	30.0	32.7	0.10
AV-334	NE	TILL	75.5	21.0	3.5	4.5	0.22
AV-373	W	TILL	16.0	36.0	48.0	31.3	0.68
AV-397	W	TILL	34.0	46.0	20.0	45.5	0.25
E-011	W	TILL	10.0	27.0	63.0	29.0	1.12
E-031A	W	TILL	10.0	29.0	61.0	30.0	1.03
E-031B	W	TILL	36.0	41.0	23.0	38.6	0.20
E-047	W	TILL	21.0	29.0	50.0	28.1	0.38
E-054	W	TILL	48.0	31.0	21.0	33.2	0.36
E-056	W	TILL	23.0	33.0	44.0	29.0	0.39
E-060	W	TILL	29.0	24.0	47.0	8.0	0.13
E-068	W	TILL	9.0	22.0	69.0	16.7	0.22
E-075	W	TILL	9.5	28.5	62.0	25.0	0.59
E-083	W	TILL	5.5	28.5	66.0	34.5	1.24
E-099	W	TILL	7.5	28.5	64.0	29.6	0.82
E-103	W	TILL	14.5	32.5	53.0	30.3	0.51
E-114	W	TILL	26.0	28.0	46.0	19.0	0.15
E-125	W	TILL	27.0	32.0	41.0	36.6	0.28
E-138	W	TILL	14.5	34.5	51.0	30.6	0.74
E-152	W	TILL	27.5	33.5	39.0	35.3	0.19
E-157	W	TILL	25.5	29.5	45.0	32.6	0.64
E-166	W	TILL	17.5	37.5	45.0	31.4	0.47
E-167	W	TILL	22.5	28.5	49.0	28.2	0.45
E-171	W	TILL	42.5	35.5	22.0	38.6	0.37
E-187	W	TILL	20.5	30.5	49.0	28.5	0.47
E-191	W	TILL	21.0	29.0	50.0	32.3	0.63
E-196	W	TILL	24.0	29.0	47.0	32.5	0.90
E-209	W	TILL	23.0	27.0	50.0	18.1	0.12
E-210	W	TILL	10.5	27.5	62.0	28.5	1.02
E-216	W	TILL	7.5	27.5	65.0	7.8	0.17
E-225	W	TILL	11.5	30.5	58.0	31.4	0.98
E-231	W	TILL	19.0	30.0	51.0	27.8	0.51
E-236	W	TILL	25.5	34.5	40.0	29.4	0.14
E-241	W	TILL	12.0	31.0	57.0	32.2	0.82
E-266	W	TILL	9.5	31.5	59.0	21.8	0.30
E-267	W	TILL	10.0	30.0	60.0	12.4	0.19
E-290	W	TILL	17.0	32.0	51.0	15.9	0.14
E-304	W	TILL	26.5	29.5	44.0	29.0	0.46
E-311	W	TILL	29.0	24.0	47.0	28.9	0.53
E-320	W	TILL	20.5	35.5	44.0	32.3	0.76
E-337A	W	TILL	9.5	31.5	59.0	32.1	0.14
E-337B	NE	TILL	54.5	40.5	5.0	2.5	0.59
E-341	W	TILL	16.0	32.0	52.0	28.5	0.72
E-346	W	TILL	18.0	29.0	53.0	30.3	0.73
E-351	W	TILL	21.5	30.5	48.0	28.4	0.46
E-353	W	TILL	31.5	30.5	38.0	30.5	0.46
E-354	W	TILL	20.5	31.5	48.0	29.6	0.50
E-421	W	TILL	26.0	25.0	49.0	2.5	0.59
E-434	NE	TILL	87.5	9.5	3.0	2.1	1.24
E-435B	W	TILL	74.0	24.0	2.0	6.4	0.17
E-435C	W	TILL	31.5	44.5	24.0	44.3	0.38
E-436	W	TILL	28.5	33.5	38.0	27.2	0.03
E-437	W	TILL	32.5	43.5	24.0	39.3	0.13
E-438	W	TILL	17.0	55.0	28.0	33.4	0.21
E-439	W	TILL	31.0	42.0	27.0	30.1	0.15
E-440	W	TILL	20.0	29.0	51.0	15.8	0.19
E-441	W	TILL	12.5	35.5	52.0	27.6	0.18
E-442G	NE	TILL	48.0	33.0	19.0	1.8	0.99
FF-001	W	TILL	10.5	38.5	51.0	54.7	0.30
NB-001	NE	TILL	50.5	44.0	5.5	5.2	0.33

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
NB-002	NE	TILL	88.0	10.5	1.5	2.0	0.67
NB-003	NE	TILL	71.0	28.0	1.0	9.1	0.14
NB-004G	NE	TILL	66.0	33.0	1.0	5.6	0.45
NB-004R	NE	TILL	72.0	26.5	1.5	5.6	0.29
NB-005L	NE	TILL	67.0	31.0	2.0	5.4	0.30
NB-007	NE	TILL	65.0	33.5	1.5	4.9	0.35
NB-008	NE	TILL	47.0	52.0	1.0	6.7	0.34
NB-009	NE	TILL	53.5	42.5	4.0	6.2	0.24
NB-012	NE	TILL	85.0	15.0	0.0	1.1	0.93
NB-015	NE	TILL	71.0	27.0	2.0	2.2	0.48
NB-105D	W	TILL	24.5	38.5	37.0	25.5	0.37
NB-126	W	TILL	29.0	32.0	39.0	33.0	0.23
NB-146	W	TILL	9.0	32.0	59.0	20.2	0.31
NB-162	W	TILL	13.5	34.5	52.0	1.3	1.86
NB-165AU	W	TILL	41.5	46.5	12.0	30.6	0.33
NB-165B	NE	TILL	69.0	28.0	3.0	5.3	0.31
NB-167A	W	TILL	16.0	41.0	43.0	34.6	0.63
NB-168B	W	TILL	11.0	37.5	51.5	26.1	0.48
NB-186	W	TILL	7.0	28.0	65.0	23.2	0.56
NB-187	W	TILL	37.0	35.0	28.0	34.3	0.57
NB-189	NE	TILL	60.5	37.5	2.0	1.4	2.06
NB-194A	W	TILL	17.5	55.0	27.5	36.0	0.30
NB-207	NE	TILL	85.5	13.5	1.0	1.0	0.81
NB-218	W	TILL	70.0	25.0	5.0	23.7	0.19
NB-220	NE	TILL	64.5	29.5	6.0	1.0	0.51
NB-223	NE	TILL	76.5	19.5	4.0	1.2	0.85
NB-227	NE	TILL	59.5	30.5	10.0	1.1	0.44
NB-228	NE	TILL	68.0	29.0	3.0	0.6	0.56
NB-229	NE	TILL	60.5	35.5	4.0	0.7	0.44
NB-231	NE	TILL	66.0	32.0	2.0	1.4	0.99
NB-232A	W	TILL	32.5	35.5	32.0	49.0	0.81
NB-232B	NE	TILL	74.5	22.5	3.0	1.6	0.72
NB-233	NE	TILL	62.0	34.0	4.0	1.5	1.22
NB-234	NE	TILL	62.5	31.5	6.0	1.5	0.60
NB-236	NE	TILL	81.5	15.5	3.0	1.2	0.59
NB-238	NE	TILL	85.0	15.0	0.0	1.2	0.85
NB-240	NE	TILL	72.5	24.5	3.0	1.0	0.81
NB-241	NE	TILL	91.5	9.5	0.0	1.1	1.48
NB-242	NE	TILL	80.5	17.5	2.0	0.9	1.00
NB-243	NE	TILL	63.5	29.5	7.0	1.5	0.42
NB-244	NE	TILL	77.5	18.5	4.0	1.2	0.36
NB-248	NE	TILL	81.5	18.5	0.0	1.5	1.22
NB-250	NE	TILL	80.5	17.5	2.0	1.3	1.19
NB-253	NE	TILL	74.0	25.0	1.0	0.9	1.58
NB-262	NE	TILL	74.0	24.0	2.0	0.8	1.28
NB-264	NE	TILL	64.5	28.5	7.0	1.4	0.99
NB-265	NE	TILL	67.5	28.5	4.0	1.2	0.85
NB-266	NE	TILL	56.0	41.0	3.0	1.1	1.00
NB-267	NE	TILL	62.5	27.5	10.0	2.9	1.53
NB-268	NE	TILL	79.0	16.0	5.0	1.7	0.89
NB-269	NE	TILL	93.0	5.0	2.0	1.5	0.60
NB-270	NE	TILL	57.0	37.0	6.0	1.4	0.71
NB-271	NE	TILL	86.5	13.5	0.0	0.9	0.60
NB-272	NE	TILL	87.5	11.5	1.0	1.6	0.72
NB-273	NE	TILL	78.0	22.0	0.0	1.2	0.85
NB-274	NE	TILL	75.5	20.5	4.0	1.4	0.71
NB-276	NE	TILL	26.0	41.0	33.0	1.1	1.00
NB-277	NE	TILL	49.0	49.0	2.0	1.2	0.85
NB-279	NE	TILL	80.5	16.5	3.0	1.0	0.81
NB-281	NE	TILL	89.0	10.0	1.0	1.1	0.69
NB-283	NE	TILL	80.0	19.0	1.0	1.4	0.71
NB-285	NE	TILL	70.5	29.5	0.0	1.5	1.63
NB-287	NE	TILL	65.0	32.0	3.0	1.3	1.19
NB-288	NE	TILL	82.0	16.0	2.0	1.2	2.34
NB-290	NE	TILL	81.0	18.0	1.0	1.0	1.24
NB-291	NE	TILL	87.0	12.0	1.0	1.1	1.48
NB-292	NE	TILL	78.0	20.0	2.0	1.3	1.19
NB-294	NE	TILL	58.0	36.0	6.0	0.9	1.00
NB-295	NE	TILL	64.0	31.0	5.0	1.0	1.24

Till Texture (-2 mm) & Carbonate Content (-0.074 mm) (Surface Samples)

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
NB-296	NE	TILL	25.0	35.0	40.0	1.1	0.69
NB-298	NE	TILL	75.5	19.5	5.0	1.0	0.51
NB-299	NE	TILL	71.0	26.0	3.0	1.2	0.85
NB-306	W	TILL	10.0	53.0	37.0	37.3	0.46
NB-311	W	TILL	26.0	38.5	35.5	26.8	0.39
NB-319	NE	TILL	75.0	23.5	1.5	4.9	0.35
NB-323	NE	TILL	25.5	69.5	5.0	5.6	0.44
NB-328	NE	TILL	81.0	18.0	1.0	2.5	0.59
NB-333	NE	TILL	40.0	58.0	2.0	2.7	0.48
NB-343	NE	TILL	52.0	44.0	4.0	2.5	0.59
NB-345	NE	TILL	58.0	37.5	4.5	6.6	0.34
NB-357	NE	TILL	17.0	49.0	34.0	1.1	0.69
NB-369	NE	TILL	95.0	5.0	0.0	1.0	1.89
NB-386	NE	TILL	75.5	24.5	0.0	0.9	1.58
NB-388	NE	TILL	80.0	20.0	0.0	1.0	1.24
NB-390	NE	TILL	69.0	30.0	1.0	1.0	1.24
NB-397	NE	TILL	81.0	19.0	0.0	0.9	1.58
NB-401	NE	TILL	45.5	38.5	16.0	0.8	1.28
NB-402	NE	TILL	44.0	29.0	27.0	1.0	1.89
NB-403	NE	TILL	62.5	35.5	2.0	1.0	1.24
NB-407	NE	TILL	77.0	23.0	0.0	1.3	1.19
NB-408	NE	TILL	80.5	18.5	1.0	1.0	0.51
NB-409	NE	TILL	71.0	28.0	1.0	1.1	2.41
NB-411	NE	TILL	36.5	48.5	15.0	1.3	1.19
NB-412	NE	TILL	64.0	36.0	0.0	1.3	1.86
NB-415	NE	TILL	63.5	35.5	1.0	1.1	1.48
NB-416	NE	TILL	61.0	35.0	4.0	1.4	2.11
NB-417	NE	TILL	64.0	25.0	11.0	1.3	1.19
NB-418	NE	TILL	80.5	18.5	1.0	1.3	1.19
NB-420	NE	TILL	73.5	25.5	1.0	1.1	0.69
NB-421	NE	TILL	74.5	24.5	1.0	1.1	1.00
NB-424	NE	TILL	55.5	34.5	10.0	1.0	0.81
NB-426	NE	TILL	72.0	28.0	0.0	1.3	1.19
NB-427	NE	TILL	62.5	36.5	1.0	1.0	0.81
NB-428	NE	TILL	73.0	27.0	0.0	1.4	1.01
NB-429	NE	TILL	79.0	21.0	0.0	1.3	1.19
NB-504	NE	TILL	81.5	18.5	0.0	1.0	0.81
NB-507	W	TILL	29.0	42.0	29.0	28.3	0.05
NB-508	NE	TILL	55.5	40.5	4.0	1.4	1.13
NB-535	NE	TILL	76.0	24.0	0.0	1.3	1.19
NB-538	NE	TILL	71.5	28.5	0.0	0.8	0.35
NB-539	NE	TILL	84.0	16.0	0.0	1.0	0.81
NB-541	NE	TILL	78.5	21.5	0.0	1.3	1.86
NB-545	NE	TILL	32.5	65.5	2.0	1.1	1.48
NB-547	NE	TILL	85.0	15.0	0.0	1.1	1.00
NB-557	NE	TILL	79.0	21.0	0.0	1.0	0.81
NB-561	NE	TILL	77.0	22.0	1.0	1.3	1.86
NB-564	NE	TILL	67.5	30.5	2.0	1.0	0.81
NB-568	NE	TILL	79.5	20.5	0.0	1.4	0.99
NB-569	NE	TILL	76.5	21.5	2.0	1.7	0.89
NB-573	NE	TILL	64.5	31.5	4.0	1.4	0.99
NB-575	NE	TILL	83.5	11.5	5.0	1.3	0.58
NB-577	NE	TILL	60.0	33.0	7.0	1.3	1.15
NB-587	NE	TILL	74.0	22.0	4.0	1.3	1.15
NB-591	NE	TILL	46.0	50.0	4.0	1.1	1.00
P-009L	W	TILL	21.0	39.0	40.0	31.9	0.64
P-026	W	TILL	30.0	44.0	26.0	29.0	0.41
P-030	W	TILL	26.0	49.0	25.0	44.0	0.42
P-046	W	TILL	28.5	45.5	26.0	37.5	0.67
P-055	W	TILL	24.5	51.5	24.0	38.6	0.43
P-067	W	TILL	28.0	40.0	32.0	31.5	0.43
P-070	W	TILL	23.0	39.0	38.0	28.5	0.40
P-083	W	TILL	23.0	46.0	31.0	51.3	0.43
P-096	W	TILL	34.0	48.0	18.0	35.2	0.40
P-114	W	TILL	24.0	40.0	36.0	31.4	0.59
P-170	W	TILL	22.0	39.0	39.0	31.2	0.58
P-176L	W	TILL	20.0	38.0	42.0	32.1	0.62
P-182A	W	TILL	31.5	40.5	28.0	34.5	0.47
P-201	W	TILL	34.5	43.5	22.0	49.4	0.76

SAMPLE NO.	LOBE	MATERIAL	%SAND	%SILT	%CLAY	TOTAL CARB.	CALCITE/ DOLOMITE
P-206	W	TILL	31.0	47.0	22.0	46.3	0.43
RR-010	W	TILL	41.0	42.0	17.0	42.3	0.70
RR-021	W	TILL	37.0	46.0	17.0	34.3	0.31
RR-045	W	TILL	34.5	46.5	19.0	32.9	0.40
RR-058	W	TILL	34.5	47.5	18.0	33.9	0.60
RR-078	W	TILL	49.0	39.0	12.0	45.3	0.35
RR-083	W	TILL	21.5	59.5	19.0	4.8	0.35
RR-214	W	TILL	34.5	32.5	33.0	27.8	0.69
RR-222	W	TILL	21.0	37.0	42.0	33.4	0.66

Pebble Lithology Data for Surface Samples (+4.75 mm)

SAMPLE NO.	LOBE	MATERIAL	NO.PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
FBH-03-01	NE	TILL	337	32.3	20.8	26.1	6.8	2.7	0.6	0.9	0.0	9.8	0.0
FBH-08-01	NE	TILL	319	11.9	8.2	50.8	0.0	0.3	28.8	0.0	0.0	0.0	0.0
FBH-09-01	NE	TILL	731	1.8	6.1	23.3	1.9	6.1	60.0	0.3	0.0	0.0	0.5
FBH-09-02	NE	TILL	314	3.2	20.1	34.4	5.4	5.4	25.8	0.7	0.0	3.5	1.6
FBH-10-81	NE	TILL	297	12.1	22.6	19.2	4.4	3.7	34.3	0.0	0.0	1.7	2.0
FBH-12-01	NE	TILL	307	1.0	35.2	16.9	17.9	0.0	24.1	0.0	0.0	4.6	0.3
FBH-13-01	NE	TILL	546	1.1	18.9	21.4	52.2	0.0	1.5	0.0	0.0	3.3	1.6
FBH-14-01	NE	TILL	622	0.0	95.5	2.0	0.5	0.3	1.1	0.0	0.0	0.0	0.5
FBH-14-02	NE	TILL	340	0.0	14.4	8.2	63.2	0.0	0.6	1.2	0.0	7.4	5.0
FBH-15-01	NE	TILL	369	3.0	9.8	65.6	10.6	10.8	0.0	0.0	0.0	0.0	0.3
FBH-17-01	NE	TILL	397	2.5	15.4	40.0	39.3	0.0	0.0	0.0	0.0	2.3	0.5
FBH-17-02	NE	TILL	382	3.1	11.5	45.5	39.0	0.0	0.0	0.0	0.0	0.0	0.8
FBH-18-01	NE	TILL	594	0.7	19.2	28.3	48.5	0.0	0.0	0.0	0.0	2.7	0.7
FBH-18-02	NE	TILL	644	1.6	12.1	73.0	11.0	0.0	0.0	0.0	0.0	1.5	0.8
FBH-19-01	NE	TILL	409	1.7	22.2	32.0	39.3	0.5	0.0	0.0	0.0	4.2	0.0
FBH-19-02	NE	TILL	348	2.0	16.7	22.4	54.6	0.0	0.0	0.0	0.0	2.0	2.3
FBH-20-01	NE	TILL	454	2.0	16.7	48.5	30.4	0.0	0.0	0.0	0.0	0.0	2.4
FBH-21-01	NE	TILL	504	3.2	16.9	29.0	7.9	3.8	28.6	3.4	0.0	6.5	0.8
FBH-22-01	NE	TILL	694	4.6	30.0	24.9	14.1	0.6	21.8	0.0	0.0	2.9	1.2
FBH-23-01	NE	TILL	675	12.6	10.8	57.2	5.8	0.0	5.6	0.0	0.0	7.1	0.9
FBH-24-01	NE	TILL	310	1.9	24.2	20.3	23.2	9.0	16.8	0.0	0.0	3.5	1.0
FBH-25-01	NE	TILL	594	6.7	18.0	37.6	24.4	0.2	7.9	0.0	0.0	1.5	3.7
FBH-25-02	NE	TILL	454	5.5	27.3	21.1	26.9	1.1	14.8	0.0	0.0	2.2	1.1
FBH-26-01	NE	TILL	255	3.9	31.8	18.1	14.1	0.0	24.7	0.0	0.0	3.9	3.5
FBH-33-01	NE	TILL	474	4.6	31.9	22.0	27.4	2.1	6.8	0.0	0.0	2.5	2.7
FBH-34-01	NE	TILL	205	14.1	2.4	82.0	1.0	0.0	0.0	0.0	0.0	0.0	0.5
FBH-35-01	NE	TILL	535	2.4	14.8	25.8	40.2	5.2	2.8	0.0	0.0	2.8	6.0
FBH-36-01	NE	TILL	440	5.7	16.8	49.0	24.1	0.5	0.0	1.4	0.0	1.4	1.1
FBH-37-01	NE	TILL	409	7.3	8.8	71.4	10.5	0.0	0.0	0.7	0.0	0.7	0.5
FBH-38-01	NE	TILL	304	8.9	33.6	35.5	17.8	0.0	0.0	0.0	0.0	3.6	0.7
FBH-40-01	NE	TILL	1086	4.0	32.1	50.6	11.8	0.0	0.0	0.0	0.0	0.9	0.5
FBH-41-01	NE	TILL	347	0.6	13.5	50.7	33.7	0.0	0.0	0.0	0.0	0.0	1.4
FBH-42-01	NE	TILL	174	1.7	29.3	27.6	40.8	0.0	0.0	0.0	0.0	0.0	0.6
FBH-43-01	NE	TILL	478	2.3	11.1	60.0	25.5	0.0	0.0	0.0	0.0	0.6	0.4
FBH-44-01	NE	TILL	539	0.6	12.4	48.8	24.3	0.0	0.0	0.0	0.0	12.2	1.7
AV-062	NE	TILL	125	4.8	39.2	52.0	1.6	0.8	0.0	0.0	0.0	0.0	1.6
AV-068L	NE	TILL	145	25.0	37.0	32.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0
AV-073L	W	TILL	189	7.0	7.0	25.0	0.0	1.0	0.0	59.0	0.0	0.0	0.0
AV-073U	NE	TILL	100	9.0	40.0	45.0	0.0	4.0	0.0	0.0	0.0	0.0	2.0
AV-110	W	TILL	155	0.0	7.0	13.0	0.0	0.0	0.0	76.0	4.0	0.0	0.0
AV-334	NE	TILL	169	8.9	49.7	34.3	3.6	0.6	0.0	0.0	0.0	0.0	2.9
AV-373	W	TILL	161	1.0	3.0	7.0	0.0	0.0	0.0	89.0	0.0	0.0	0.0
E-011	W	TILL	176	0.6	4.0	8.0	1.1	0.0	0.0	83.4	0.6	1.7	0.6
E-047	W	TILL	157	0.6	4.4	12.1	0.0	0.0	0.0	80.9	1.9	0.0	0.0
E-054	W	TILL	183	0.0	9.8	21.3	0.5	0.0	0.0	62.3	5.4	0.5	0.0

Pebble Lithology Data for Surface Samples (+4.75 mm)

SAMPLE NO.	LOBE	MATERIAL	NO.PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
E-056	W	TILL	125	9.6	4.0	14.4	2.4	0.0	0.0	65.6	3.2	0.8	0.0
E-167	W	TILL	189	1.6	3.2	14.2	0.0	0.0	0.0	79.3	1.6	0.0	0.0
E-210	W	TILL	533	3.2	3.8	15.2	0.0	1.9	0.0	75.3	0.2	0.0	0.8
E-277	W	TILL	414	1.9	4.3	22.0	0.9	6.8	0.0	63.5	0.8	0.0	0.0
E-351	W	TILL	199	2.5	3.5	23.1	0.0	1.0	0.0	66.8	3.0	0.0	0.0
E-435B	W	TILL	170	0.6	5.3	59.4	7.6	3.5	0.0	21.2	1.2	0.0	1.2
FF-001	W	TILL	205	2.0	4.4	17.5	1.5	2.9	0.0	70.8	0.8	0.0	0.0
NB-001	NE	TILL	189	5.3	13.2	78.8	1.1	0.0	0.0	0.0	0.0	1.0	0.5
NB-002	NE	TILL	277	17.7	52.7	10.8	0.4	0.0	0.0	0.0	0.0	18.4	0.0
NB-003	NE	TILL	144	13.2	47.9	37.5	0.7	0.0	0.0	0.0	0.0	0.7	0.0
NB-004G	NE	TILL	150	10.6	24.7	62.0	0.0	0.0	0.0	0.0	0.0	2.0	0.7
NB-004R	NE	TILL	146	4.1	6.2	84.9	0.0	0.0	0.0	0.0	0.0	3.4	1.4
NB-005L	NE	TILL	110	15.5	4.5	65.5	4.5	3.6	0.0	0.0	0.0	5.5	0.9
NB-007	NE	TILL	260	5.8	15.4	75.8	0.0	0.0	0.0	0.0	0.0	1.1	1.9
NB-008	NE	TILL	355	1.1	7.9	89.9	0.5	0.0	0.0	0.0	0.0	0.3	0.3
NB-009	NE	TILL	234	26.1	29.9	36.3	0.0	0.0	0.0	0.0	0.0	6.8	0.9
NB-012	NE	TILL	201	9.5	33.8	44.3	2.5	0.0	0.0	0.0	0.0	6.9	2.9
NB-105D	W	TILL	132	12.1	28.8	28.8	0.0	2.3	0.0	21.2	6.1	0.0	0.8
NB-165AL	NE	TILL	310	12.9	27.4	52.9	0.0	2.6	0.0	0.7	1.3	1.6	0.7
NB-165AU	W	TILL	143	13.9	33.5	32.2	3.5	2.8	0.0	6.9	0.7	4.8	1.4
NB-165B	NE	TILL	220	5.5	21.4	21.8	0.9	9.5	0.0	36.4	0.9	3.2	0.5
NB-167A	W	TILL	280	1.4	4.3	1.4	12.1	1.4	0.0	78.2	0.0	0.7	0.4
NB-168A	W	TILL	197	5.6	20.3	19.3	0.0	2.5	0.0	50.8	0.5	0.5	0.5
NB-168B	W	TILL	218	3.2	8.3	26.6	0.0	1.8	0.0	59.5	0.5	0.0	0.0
NB-189	NE	TILL	289	10.7	19.0	63.7	2.4	1.3	0.0	0.0	0.0	2.7	0.0
NB-194A	W	TILL	268	5.0	17.0	10.0	0.0	0.0	0.0	68.0	0.0	0.0	0.0
NB-207	NE	TILL	179	12.8	15.0	29.1	38.5	1.1	0.0	0.0	0.0	2.8	0.6
NB-223	NE	TILL	277	7.2	20.2	51.6	15.8	4.3	0.0	0.0	0.4	0.4	0.0
NB-228	NE	TILL	218	2.3	22.0	0.0	72.9	0.5	0.0	0.0	0.0	1.3	0.9
NB-232A	W	TILL	214	1.4	11.2	26.2	24.8	0.0	0.0	34.6	0.9	0.0	0.9
NB-232B	NE	TILL	251	3.9	11.9	58.1	22.3	2.0	0.0	0.0	0.0	0.8	0.8
NB-233	NE	TILL	193	1.6	13.5	66.3	9.9	7.8	0.0	0.0	0.0	0.0	1.0
NB-238	NE	TILL	229	3.9	14.0	33.1	31.8	14.0	0.0	0.0	0.0	2.6	0.4
NB-241	NE	TILL	191	17.3	31.9	34.6	4.7	7.3	0.0	0.0	0.0	3.6	0.5
NB-250	NE	TILL	239	4.6	13.8	73.2	6.3	0.0	0.0	0.0	0.0	1.1	0.8
NB-269	NE	TILL	307	23.5	14.0	49.2	3.3	6.2	0.0	0.0	0.0	2.0	2.0
NB-270	NE	TILL	178	6.7	42.7	26.9	9.6	7.3	0.0	0.0	0.0	5.6	1.1
NB-273	NE	TILL	190	1.1	35.3	49.4	9.5	3.7	0.0	0.0	0.0	1.1	0.0
NB-277	NE	TILL	182	5.5	20.3	34.1	22.5	14.8	0.0	0.0	0.0	0.0	2.7
NB-285	NE	TILL	126	11.9	22.2	50.0	9.5	4.0	0.0	0.0	0.0	2.4	0.0
NB-287	NE	TILL	142	2.1	9.9	88.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NB-288	NE	TILL	148	3.4	11.5	56.7	22.3	4.7	0.0	0.0	0.0	0.0	1.4
NB-293	NE	TILL	148	4.0	9.5	45.2	35.8	4.7	0.0	0.0	0.0	0.0	0.7
NB-295	NE	TILL	144	0.0	47.9	34.7	16.7	0.0	0.0	0.0	0.0	0.7	0.0
NB-298	NE	TILL	103	7.8	15.5	51.5	21.4	1.9	0.0	0.0	0.0	1.9	0.0

Pebble Lithology Data for Surface Samples (+4.75 mm)

SAMPLE NO.	LOBE	MATERIAL	NO.PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
NB-306	W	TILL	284	1.1	8.5	10.2	0.0	0.4	0.0	79.9	0.0	0.0	0.0
NB-319	NE	TILL	527	1.3	5.9	92.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
NB-323	NE	TILL	311	7.4	28.9	60.1	1.0	1.3	0.0	0.0	0.0	0.3	1.0
NB-328	NE	TILL	229	15.3	43.2	35.4	1.0	1.0	0.0	0.0	0.0	4.0	0.0
NB-333	NE	TILL	184	1.6	9.8	88.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
NB-343	NE	TILL	267	4.1	57.7	22.5	3.7	0.0	0.0	0.0	0.0	10.8	1.1
NB-345	NE	TILL	198	6.1	63.6	17.7	4.0	0.0	0.0	0.0	0.0	8.1	0.5
NB-347	NE	TILL	160	5.6	43.8	43.1	1.3	0.0	0.0	0.0	0.0	6.3	0.0
NB-369	NE	TILL	258	2.7	16.7	64.7	6.5	7.7	0.0	0.0	0.0	0.4	1.2
NB-388	NE	TILL	176	7.4	9.7	1.7	75.6	2.3	0.0	0.0	0.0	3.4	0.0
NB-403	NE	TILL	102	15.7	18.6	58.8	0.0	2.9	0.0	0.0	0.0	1.0	2.9
NB-407	NE	TILL	141	7.1	5.7	36.9	43.3	0.0	0.0	0.0	0.0	0.0	7.1
NB-409	NE	TILL	144	1.4	23.6	44.4	25.7	0.0	0.0	0.0	0.0	4.9	0.0
NB-412	NE	TILL	155	4.5	9.7	42.5	41.9	0.0	0.0	0.0	0.0	0.0	1.3
NB-416	NE	TILL	158	1.3	19.6	48.1	25.3	2.5	0.0	0.0	0.0	1.9	1.3
NB-418	NE	TILL	131	18.3	9.9	58.8	13.0	0.0	0.0	0.0	0.0	0.0	0.0
NB-421	NE	TILL	124	8.9	15.3	57.3	16.9	0.0	0.0	0.0	0.0	0.8	0.8
NB-426	NE	TILL	113	1.8	19.5	45.1	28.3	5.3	0.0	0.0	0.0	0.0	0.0
NB-428	NE	TILL	88	3.1	9.2	53.5	22.9	7.6	0.0	0.0	0.0	3.8	0.0
NB-504	NE	TILL	444	3.3	25.9	52.4	9.9	5.6	0.0	0.0	0.0	1.6	1.1
NB-508	NE	TILL	219	2.3	8.7	81.2	1.8	4.1	0.0	0.0	0.0	1.8	0.0
NB-509	NE	TILL	251	3.2	4.8	77.7	8.8	2.8	0.0	0.0	0.0	1.2	1.6
NB-512	NE	TILL	372	5.4	11.5	61.8	16.1	3.5	0.0	0.0	0.0	0.8	0.5
NB-517	NE	TILL	173	20.8	11.0	53.8	0.0	11.0	0.0	0.0	2.3	0.0	1.2
NB-518	NE	TILL	235	7.7	6.4	80.9	2.6	1.7	0.0	0.0	0.0	0.9	0.0
NB-533	NE	TILL	149	8.7	7.4	69.1	8.0	4.7	0.0	0.0	0.0	0.7	1.3
NB-535	NE	TILL	121	9.9	9.9	39.7	27.3	5.0	0.0	0.0	0.0	8.2	0.0
NB-539	NE	TILL	73	9.6	11.0	41.1	32.9	2.7	0.0	0.0	0.0	0.0	2.7
NB-547	NE	TILL	92	6.5	5.4	51.1	28.2	6.5	0.0	0.0	0.0	1.1	1.1
NB-561	NE	TILL	143	3.5	2.1	86.0	5.6	2.1	0.0	0.0	0.0	0.0	0.7
NB-564	NE	TILL	103	1.9	10.7	62.1	17.5	4.9	0.0	0.0	0.0	0.0	2.9
NB-568	NE	TILL	109	1.8	8.3	54.1	31.2	1.8	0.0	0.0	0.0	0.9	1.8
NB-569	NE	TILL	106	6.6	4.7	68.9	14.2	0.0	0.0	0.0	0.0	0.0	5.7
NB-575	NE	TILL	100	2.0	22.0	58.0	15.0	0.0	0.0	0.0	0.0	3.0	0.0
NB-591	NE	TILL	96	5.2	9.4	67.7	12.5	5.2	0.0	0.0	0.0	0.0	0.0
P-026	W	TILL	100	1.0	13.0	8.0	8.0	0.0	0.0	64.0	6.0	0.0	0.0
P-030	W	TILL	100	5.0	11.0	12.0	2.0	0.0	0.0	67.0	3.0	0.0	0.0
P-046	W	TILL	100	0.0	23.0	4.0	2.0	2.0	0.0	66.0	2.0	1.0	0.0
P-067	W	TILL	202	1.9	3.9	9.9	0.0	0.0	0.0	84.1	0.0	0.0	0.0
P-083	W	TILL	271	2.6	5.2	11.4	0.4	0.0	0.0	77.8	0.7	1.8	0.0
P-096	W	TILL	274	2.5	10.6	20.1	2.9	1.1	0.0	59.5	3.3	0.0	0.0
P-114	W	TILL	100	1.0	3.0	7.0	0.0	0.0	0.0	89.0	0.0	0.0	0.0
P-164AL	NE	TILL	178	4.5	39.3	34.2	4.5	14.6	0.0	0.0	0.0	0.0	2.8
P-164AU	W	TILL	114	6.1	25.4	37.7	1.8	2.6	0.0	22.9	0.0	0.9	2.6
P-170	W	TILL	291	4.8	17.5	14.1	0.0	0.0	0.0	62.5	1.0	0.0	0.0

Pebble Lithology Data for Surface Samples (+4.75 mm)

SAMPLE NO.	LOBE	MATERIAL	NO. PEBS COUNTED	%MAFIC INTR	%MAFIC EXTR	%FELS-INT INTR	%FELS-INT EXTR	%SCHST & GNSS	%META-SEDS	%PALEO CARBS	%OTHER P&M	%WEATH ROCKS	%OTHERS
P-173	W	TILL	268	3.0	6.7	18.7	2.6	1.1	0.0	62.7	4.8	0.4	0.0
P-176L	W	TILL	218	2.8	5.9	11.0	0.9	0.0	0.0	77.9	0.9	0.0	0.5
P-176U	W	TILL	201	4.9	3.5	8.5	0.0	0.5	0.0	81.6	0.5	0.0	0.5
P-201	W	TILL	141	0.0	7.0	13.0	0.0	1.0	0.0	76.0	3.0	0.0	0.0
P-211	NE	TILL	211	12.3	50.7	22.7	0.5	5.7	0.0	0.0	4.7	0.0	3.3
RR-021	W	TILL	175	1.7	6.9	14.3	1.1	0.0	0.0	72.0	2.9	0.0	1.1
RR-058	W	TILL	176	2.3	5.7	14.2	1.1	0.0	0.0	69.8	6.2	0.6	0.0
RR-083	W	TILL	270	1.5	3.7	8.9	1.9	0.0	0.0	82.6	0.8	0.0	0.7

Heavy Mineral Weight Data (-2 mm) (Surface Samples)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
FBH-01-01	W	TILL	6.0	0.2	5.8	36.2	34.5	1.7	1.1	0.6
FBH-03-01	NE	TILL	8.4	2.6	5.8	228.1	161.7	66.4	60.1	6.3
FBH-05-01	NE	TILL	9.0	0.4	8.6	98.3	90.0	8.3	7.8	0.5
FBH-05-02	NE	TILL	5.4	0.4	5.0	73.7	66.7	7.0	6.7	0.3
FBH-06-01	NE	TILL	3.7	0.2	3.5	94.1	92.3	1.8	1.7	0.1
FBH-06-02	NE	TILL	6.5	0.5	6.0	56.3	47.1	9.2	6.5	2.7
FBH-08-01	NE	TILL	8.2	1.2	7.0	261.3	217.2	44.1	35.1	9.0
FBH-08-02	NE	TILL	8.9	1.0	7.9	175.0	141.5	33.5	24.5	9.0
FBH-09-01	NE	TILL	7.9	0.8	7.1	332.7	307.3	25.4	19.2	6.2
FBH-09-02	NE	TILL	8.4	1.0	7.4	309.6	280.7	28.9	21.3	7.6
FBH-10-01	NE	TILL	7.8	1.0	6.8	197.5	174.2	23.3	17.4	5.9
FBH-12-01	NE	TILL	10.2	0.7	9.5	293.8	261.4	32.4	23.6	8.8
FBH-13-01	NE	TILL	8.6	0.9	7.7	323.1	300.8	22.3	14.8	7.5
FBH-14-01	NE	TILL	7.9	1.0	6.9	256.9	240.6	16.3	11.9	4.4
FBH-14-02	NE	TILL	7.1	1.3	5.8	208.8	187.3	21.5	15.0	6.5
FBH-15-01	NE	TILL	7.4	1.2	6.2	359.9	346.4	13.5	8.8	4.7
FBH-17-01	NE	TILL	7.7	2.1	5.6	344.7	320.9	23.8	17.3	6.5
FBH-17-02	NE	TILL	9.5	2.5	7.0	379.1	349.7	29.4	21.6	7.8
FBH-18-01	NE	TILL	10.4	2.6	7.8	190.7	163.1	27.6	20.2	7.4
FBH-18-02	NE	TILL	11.1	3.0	8.1	367.9	325.8	42.1	31.7	10.4
FBH-19-01	NE	TILL	7.5	0.8	6.7	381.6	339.7	41.9	32.4	9.5
FBH-19-02	NE	TILL	7.9	1.2	6.7	247.5	211.8	35.7	27.5	8.2
FBH-20-01	NE	TILL	9.7	2.2	7.5	176.3	142.4	33.9	26.0	7.9
FBH-21-01	NE	TILL	8.3	0.6	7.7	201.0	149.6	51.4	42.4	9.0
FBH-22-01	NE	TILL	9.6	1.0	8.6	237.8	202.9	34.9	29.7	5.2
FBH-23-01	NE	TILL	8.9	1.2	7.7	184.3	136.7	47.6	32.0	15.6
FBH-24-01	NE	TILL	7.7	0.6	7.1	142.5	121.6	20.9	16.5	4.4
FBH-25-01	NE	TILL	9.6	1.0	8.6	179.5	140.4	39.1	31.7	7.4
FBH-25-02	NE	TILL	9.0	0.8	8.2	222.4	182.5	39.9	30.7	9.2
FBH-26-01	NE	TILL	10.9	2.0	8.9	323.7	291.6	32.1	30.1	2.0
FBH-31-01	NE	TILL	9.4	1.0	8.4	93.1	78.5	14.6	13.1	1.5
FBH-33-01	NE	TILL	10.3	0.8	9.5	242.3	206.7	35.6	28.5	7.1
FBH-34/35	NE	TILL	17.6	1.7	15.9	345.2	303.6	41.6	35.6	6.0
FBH-36-01	NE	TILL	9.9	1.2	8.7	249.8	202.5	47.3	38.9	8.4
FBH-37-01	NE	TILL	10.0	1.0	9.0	221.3	187.1	34.2	27.9	6.3
FBH-38-01	NE	TILL	9.1	2.5	6.6	299.9	259.7	40.2	32.0	8.2
FBH-39-01	NE	TILL	11.3	6.0	5.3	201.9	179.8	22.1	17.5	4.6
FBH-40-01	NE	TILL	9.3	2.0	7.3	242.2	206.0	36.2	28.9	7.3
FBH-41-01	NE	TILL	7.9	1.8	6.1	303.0	281.3	21.7	16.1	5.6
FBH-42-01	NE	TILL	8.0	0.8	7.2	354.4	317.1	37.3	30.5	6.8
FBH-44-01	NE	TILL	7.8	0.8	7.0	271.2	254.6	16.6	13.6	3.0
AV-214	NE	TILL	8.0	2.0	6.0	266.5	242.4	24.1	22.5	1.6
AV-334	NE	TILL	8.2	1.5	6.7	194.4	167.5	26.9	18.8	8.1
E-011	W	TILL	3.9	0.0	3.9	42.6	41.2	1.4	0.9	0.5
E-031A	W	TILL	5.0	0.2	4.8	38.0	32.6	5.4	3.5	1.9
E-031B	W	TILL	3.8	0.0	3.8	35.7	34.7	1.0	0.6	0.4
E-047	W	TILL	2.1	0.0	2.1	30.9	29.3	1.6	1.0	0.6
E-054	W	TILL	5.6	0.5	5.1	50.7	40.5	10.2	6.3	3.9
E-056	W	TILL	2.2	0.2	2.0	48.5	46.4	2.1	1.4	0.7
E-083	W	TILL	3.0	0.0	3.0	52.0	51.5	0.5	0.3	0.2
E-103	W	TILL	2.7	0.2	2.5	49.2	48.1	1.1	0.7	0.4
E-166	W	TILL	2.8	0.0	2.8	45.9	43.8	2.1	1.6	0.5
E-167	W	TILL	3.4	0.3	3.1	39.8	36.9	2.9	1.9	1.0
E-171	W	TILL	3.2	0.0	3.2	49.1	44.6	4.5	3.0	1.5
E-187	W	TILL	3.5	0.0	3.5	60.3	58.3	2.0	1.3	0.7
E-191	W	TILL	3.5	0.0	3.5	50.4	48.5	1.9	1.3	0.6
E-196	W	TILL	3.2	0.1	3.1	42.8	40.7	2.1	1.5	0.6
E-210	W	TILL	2.9	0.0	2.9	59.5	58.7	0.8	0.5	0.3
E-225	W	TILL	3.1	0.0	3.1	39.4	37.7	1.7	1.1	0.6
E-231	W	TILL	3.3	0.0	3.3	77.1	75.6	1.5	0.9	0.6
E-241	W	TILL	2.4	0.0	2.4	42.1	41.1	1.0	0.6	0.4

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
E-304	W	TILL	2.7	0.0	2.7	38.0	35.7	2.3	1.6	0.7
E-311	W	TILL	3.5	0.0	3.5	30.1	28.0	2.1	1.4	0.7
E-320	W	TILL	2.6	0.0	2.6	41.8	40.3	1.5	1.0	0.5
E-337A	W	TILL	5.3	0.0	5.3	87.0	66.3	20.7	12.9	7.8
E-337B	NE	TILL	3.1	0.0	3.1	23.5	22.3	1.2	0.8	0.4
E-341	W	TILL	3.9	0.0	3.9	29.7	27.7	2.0	1.4	0.6
E-346	W	TILL	3.5	0.0	3.5	36.2	34.4	1.8	1.3	0.5
E-351	W	TILL	3.6	0.0	3.6	19.1	16.9	2.2	1.5	0.7
E-353	W	TILL	4.4	0.0	4.4	40.6	35.2	5.4	3.4	2.0
E-434	NE	TILL	5.0	0.9	4.1	79.3	66.8	12.5	7.3	5.2
E-435B	W	TILL	5.1	1.6	3.5	46.4	32.8	13.6	10.6	3.0
E-442	NE	TILL	4.2	0.1	4.1	43.9	29.5	14.4	11.2	3.2
NB-001	NE	TILL	8.6	2.5	6.1	161.9	129.6	32.3	25.4	6.9
NB-002	NE	TILL	7.7	0.7	7.0	210.3	186.1	24.2	17.4	6.8
NB-003	NE	TILL	5.5	2.2	3.3	135.9	101.8	34.1	26.3	7.8
NB-004G	NE	TILL	7.1	1.4	5.7	183.4	145.8	37.6	27.2	10.4
NB-004R	NE	TILL	6.4	1.0	5.4	156.9	136.2	20.7	14.0	6.7
NB-005L	NE	TILL	7.1	2.4	4.7	98.0	82.2	15.8	13.5	2.3
NB-009	NE	TILL	7.9	1.4	6.5	116.0	96.5	19.5	16.3	3.2
NB-018	NE	TILL	6.9	0.7	6.2	145.5	128.4	17.1	14.3	2.8
NB-165B	NE	TILL	6.9	1.0	5.9	191.2	162.3	28.9	22.4	6.5
NB-207	NE	TILL	5.9	2.3	3.6	127.6	106.0	21.6	17.2	4.4
NB-218	W	TILL	4.9	1.2	3.7	67.5	46.7	20.8	14.2	6.6
NB-220	NE	TILL	5.5	1.5	4.0	126.1	106.0	20.1	17.9	2.2
NB-223	NE	TILL	5.5	1.7	3.8	107.0	91.7	15.3	11.5	3.8
NB-227	NE	TILL	5.4	1.4	4.0	78.7	68.7	10.0	5.5	4.5
NB-228	NE	TILL	5.2	2.7	2.5	63.8	56.2	7.6	4.7	2.9
NB-229	NE	TILL	5.5	2.4	3.1	101.6	97.4	4.2	3.5	0.7
NB-231	NE	TILL	5.5	2.0	3.5	59.0	54.1	4.9	3.7	1.2
NB-232-A	W	TILL	3.8	0.3	3.5	68.1	64.7	3.4	2.2	1.2
NB-232-B	NE	TILL	5.8	2.5	3.3	188.8	173.8	15.0	11.3	3.7
NB-233	NE	TILL	5.4	1.4	4.0	39.2	37.6	1.6	1.1	0.5
NB-234	NE	TILL	5.5	1.7	3.8	93.0	90.5	2.5	1.7	0.8
NB-236	NE	TILL	6.0	2.5	3.5	177.9	168.0	9.9	7.3	2.6
NB-238	NE	TILL	6.0	2.5	3.5	146.1	134.5	11.6	8.5	3.1
NB-240	NE	TILL	6.4	2.9	3.5	165.4	151.3	14.1	7.9	6.2
NB-241	NE	TILL	6.0	2.4	3.6	264.0	237.0	27.0	19.3	7.7
NB-242	NE	TILL	6.1	2.6	3.5	137.9	126.9	11.0	7.7	3.3
NB-243	NE	TILL	6.0	2.4	3.6	118.1	105.5	12.6	8.9	3.7
NB-244	NE	TILL	6.5	3.5	3.0	147.3	128.0	19.3	15.5	3.8
NB-248	NE	TILL	6.8	3.9	2.9	232.6	214.7	17.9	12.9	5.0
NB-250	NE	TILL	6.2	3.3	2.9	228.3	207.5	20.8	15.3	5.5
NB-253	NE	TILL	5.3	2.2	3.1	252.0	228.7	23.3	16.0	7.3
NB-262	NE	TILL	5.6	1.7	3.9	149.0	128.6	20.4	16.6	3.8
NB-264	NE	TILL	4.3	1.4	2.9	196.3	191.7	4.6	3.9	0.7
NB-265	NE	TILL	4.7	1.7	3.0	200.3	196.1	4.2	3.2	1.0
NB-266	NE	TILL	5.0	0.8	4.2	124.0	113.0	11.0	5.8	5.2
NB-267	NE	TILL	4.7	1.6	3.1	106.6	99.9	6.7	6.5	0.2
NB-268	NE	TILL	5.0	1.9	3.1	174.1	158.7	15.4	10.6	4.8
NB-269	NE	TILL	4.9	1.1	3.8	59.6	51.5	8.1	5.9	2.2
NB-270	NE	TILL	6.3	2.7	3.6	62.2	51.7	10.5	10.2	0.3
NB-271	NE	TILL	5.1	1.3	3.8	167.7	146.7	21.0	16.5	4.5
NB-272	NE	TILL	5.9	2.0	3.9	213.1	199.9	13.2	11.8	1.4
NB-273	NE	TILL	5.3	0.9	4.4	154.3	130.4	23.9	16.9	7.0
NB-274	NE	TILL	4.6	0.3	4.3	92.6	65.8	26.8	10.1	16.7
NB-276	NE	TILL	4.6	1.0	3.6	42.3	35.1	7.2	6.1	1.1
NB-277	NE	TILL	5.1	0.6	4.5	47.9	40.5	7.4	7.2	0.2
NB-279	NE	TILL	5.4	0.8	4.6	93.6	73.6	20.0	14.1	5.9
NB-281	NE	TILL	5.5	1.4	4.1	53.9	37.5	16.4	10.4	6.0
NB-282	NE	TILL	5.3	2.2	3.1	51.8	34.5	17.3	15.4	1.9
NB-283	NE	TILL	4.0	0.4	3.6	258.5	251.1	7.4	6.8	0.6

Heavy Mineral Weight Data (-2 mm) (Surface Samples)

SAMPLE NO.	LOBE	MATERIAL	WEIGHT (KGS WET) TOTAL SAMPLE	+10 CLASTS	-10 TABLE FEED	WEIGHT (GMS DRY) TABLE CONC	M.I. LIGHTS	M. I. CONC. CONC. TOTAL	M. I. CONC. NON MAG	M. I. CONC. MAG
NB-285	NE	TILL	4.2	1.2	3.0	105.3	97.3	8.0	5.5	2.5
NB-287	NE	TILL	5.5	2.0	3.5	93.5	89.0	4.5	2.7	1.8
NB-288	NE	TILL	4.9	1.2	3.7	99.8	86.8	13.0	7.9	5.1
NB-290	NE	TILL	5.8	1.8	4.0	80.0	74.9	5.1	4.4	0.7
NB-291	NE	TILL	3.9	1.4	2.5	106.3	97.5	8.8	7.5	1.3
NB-292	NE	TILL	4.9	0.8	4.1	51.2	42.0	9.2	8.2	1.0
NB-294	NE	TILL	6.0	1.2	4.8	102.5	90.1	12.4	10.7	1.7
NB-295	NE	TILL	4.5	1.6	2.9	128.8	118.5	10.3	8.6	1.7
NB-296	NE	TILL	3.4	0.3	3.1	29.4	27.8	1.6	1.5	0.1
NB-298	NE	TILL	4.7	1.0	3.7	88.1	77.8	10.3	9.8	0.5
NB-299	NE	TILL	4.4	1.2	3.2	89.4	77.7	11.7	10.4	1.3
NB-323	NE	TILL	8.7	1.4	7.3	130.8	98.9	31.9	24.5	7.4
NB-343	NE	TILL	9.1	2.0	7.1	111.8	88.2	23.6	19.1	4.5
NB-345	NE	TILL	7.8	1.7	6.1	293.4	259.5	33.9	26.6	7.3
NB-357	NE	TILL	2.0	0.0	2.0	105.9	104.7	1.2	0.8	0.4
NB-369	NE	TILL	3.9	2.0	1.9	227.9	211.5	16.4	12.2	4.2
NB-384	NE	TILL	8.5	2.0	6.5	365.5	309.0	56.5	42.8	13.7
NB-386	NE	TILL	3.9	1.0	2.9	128.3	111.1	17.2	14.1	3.1
NB-388	NE	TILL	3.3	1.0	2.3	111.1	85.6	25.5	18.7	6.8
NB-390	NE	TILL	3.9	0.2	3.7	73.3	50.3	23.0	17.0	6.0
NB-394	NE	TILL	8.4	1.4	7.0	226.1	183.1	43.0	36.7	6.3
NB-397	NE	TILL	5.1	1.0	4.1	161.0	137.2	23.8	21.6	2.2
NB-401	NE	TILL	3.5	0.2	3.3	28.4	23.0	5.4	5.2	0.2
NB-402	NE	TILL	4.6	1.2	3.4	63.8	55.3	8.5	8.1	0.4
NB-403	NE	TILL	4.6	0.4	4.2	44.1	33.6	10.5	9.3	1.2
NB-407	NE	TILL	4.8	1.0	3.8	78.5	60.9	17.6	12.4	5.2
NB-408	NE	TILL	6.1	2.0	4.1	93.6	79.2	14.4	14.2	0.2
NB-409	NE	TILL	6.0	1.5	4.5	72.5	61.2	11.3	8.8	2.5
NB-411	NE	TILL	5.4	0.7	4.7	63.8	56.1	7.7	7.3	0.4
NB-412	NE	TILL	4.9	0.4	4.5	42.2	32.0	10.2	9.8	0.4
NB-415	NE	TILL	5.3	0.4	4.9	51.7	40.8	10.9	10.5	0.4
NB-416	NE	TILL	5.5	1.0	4.5	56.7	46.6	10.1	9.0	1.1
NB-417	NE	TILL	3.9	0.5	3.4	200.5	194.9	5.6	5.3	0.3
NB-418	NE	TILL	4.4	0.6	3.8	201.2	170.3	30.9	25.8	5.1
NB-420	NE	TILL	4.6	1.2	3.4	161.6	141.8	19.8	15.0	4.8
NB-421	NE	TILL	6.0	1.0	5.0	123.5	112.5	11.0	10.9	0.1
NB-424	NE	TILL	3.7	0.5	3.2	64.6	58.2	6.4	5.8	0.6
NB-426	NE	TILL	5.5	0.4	5.1	70.8	59.1	11.7	11.4	0.3
NB-427	NE	TILL	5.3	0.8	4.5	79.9	67.1	12.8	12.7	0.1
NB-428	NE	TILL	4.6	1.0	3.6	145.5	119.0	26.5	20.1	6.4
NB-429	NE	TILL	5.2	1.5	3.7	297.7	248.0	49.7	44.2	5.5
NB-504	NE	TILL	5.2	2.2	3.0	175.1	153.8	21.3	16.7	4.6
NB-508	NE	TILL	5.7	0.5	5.2	152.5	122.1	30.4	26.0	4.4
NB-509	NE	TILL	5.7	0.7	5.0	214.8	187.5	27.3	22.6	4.7
NB-512	NE	TILL	4.5	0.7	3.8	141.1	120.7	20.4	16.5	3.9
NB-515	NE	TILL	5.2	0.7	4.5	129.3	108.2	21.1	17.0	4.1
NB-517	NE	TILL	5.1	1.4	3.7	164.3	148.7	15.6	12.7	2.9
NB-518	NE	TILL	5.0	1.0	4.0	141.3	127.8	13.5	13.1	0.4
NB-520	NE	TILL	5.1	0.0	5.1	63.2	61.7	1.5	1.2	0.3
NB-523	NE	TILL	5.4	0.6	4.8	95.4	81.7	13.7	13.5	0.2
NB-527	NE	TILL	5.3	0.7	4.6	112.8	106.1	6.7	6.6	0.1
NB-533	NE	TILL	6.4	1.6	4.8	132.8	114.0	18.8	11.8	7.0
NB-535	NE	TILL	4.8	1.0	3.8	234.6	228.3	6.3	5.6	0.7
NB-538	NE	TILL	5.0	0.6	4.4	151.4	131.5	19.9	16.6	3.3
NB-539	NE	TILL	5.9	1.7	4.2	95.4	66.9	28.5	20.8	7.7
NB-541	NE	TILL	4.8	1.2	3.6	138.1	117.6	20.5	16.7	3.8
NB-545	NE	TILL	3.6	0.4	3.2	86.7	75.8	10.9	8.6	2.3
NB-547	NE	TILL	4.2	0.3	3.9	154.8	128.6	26.2	19.5	6.7
NB-557	NE	TILL	4.3	1.0	3.3	71.3	63.0	8.3	8.1	0.2
NB-561	NE	TILL	3.6	0.9	2.7	136.5	125.1	11.4	11.0	0.4
NB-564	NE	TILL	4.1	0.8	3.3	126.5	121.0	5.5	4.5	1.0
NB-568	NE	TILL	3.4	0.9	2.5	191.7	186.1	5.6	5.4	0.2
NB-569	NE	TILL	3.2	0.9	2.3	92.4	85.6	6.8	4.7	2.1
NB-573	NE	TILL	4.7	1.1	3.6	62.0	52.4	9.6	8.3	1.3
NB-575	NE	TILL	4.9	1.3	3.6	95.5	72.1	23.4	13.8	9.6
NB-577	NE	TILL	4.3	0.5	3.8	70.8	57.5	13.3	13.0	0.3
NB-587	NE	TILL	4.7	0.6	4.1	93.6	84.4	9.2	9.0	0.2
NB-591	NE	TILL	4.7	1.5	3.2	84.9	80.6	4.3	4.1	0.2
NB-600	NE	TILL	7.7	1.6	6.1	195.9	171.6	24.3	19.9	4.4
NB-601	NE	TILL	6.5	0.3	6.2	87.1	70.8	16.3	12.8	3.5
NB-602	NE	TILL	8.5	0.7	7.8	148.8	130.1	18.7	18.2	0.5

GOLD GRAIN DATA (SURFACE SAMPLES)

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
FBH-01-01	25 X 50						1	1
	50 X 75				1			1
	75 X 125		1					1
								3
FBH-03-01	NO VISIBLE GOLD							
FBH-05-01	NO VISIBLE GOLD							
FBH-05-02	NO VISIBLE GOLD							
FBH-06-01	NO VISIBLE GOLD							
FBH-06-02	NO VISIBLE GOLD							
FBH-08-01	25 X 50		2					2
	50 X 150							1
	75 X 200	1						1
	250 X 275	1						1
	325 X 350	1						1
								6
FBH-08-02	50 X 50				1		1	2
	75 X 75	1						1
								3
FBH-09-01	50 X 75		1					1
	50 X 100	1						1
								2
FBH-09-02	25 X 25		1					1
	25 X 50		2					2
	50 X 75	1						1
	75 X 100			1				1
	125 X 125	1						1
	125 X 150	1						1
	150 X 200	1						1
								8
FBH-10-01	NO VISIBLE GOLD							
FBH-12-01	25 X 25						1	1
	25 X 50		8		1			9
	25 X 75		2					2
	50 X 50		2					2
	50 X 100	1		1				2
	75 X 75			1				1
	250 X 375			1				1
								18

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
FBH-13-01	25 X 25		1					1
	25 X 50		1				1	2
	25 X 75		2					2
	50 X 50		2					2
	50 X 75		1					1
	50 X 100		1					1
	75 X 100	1						1
	100 X 200			1				1
	125 X 150	1						1
	200 X 225	1						1
								13
FBH-14-01	25 X 50		1		1			2
	75 X 75			1				1
	125 X 200			1				1
								4
FBH-14-02	25 X 25		2		2			4
	25 X 50		2					2
	50 X 75	1	1	1				3
	75 X 100		1					1
								10
FBH-15-01	NO VISIBLE GOLD							
FBH-17-01	25 X 25		3		2		2	7
	50 X 50		1					1
	50 X 75	2					1	3
	75 X 100	1						1
	75 X 125				1			1
	100 X 150	1						1
								14
FBH-17-02	25 X 25						1	1
	25 X 50		1	1				2
	25 X 75	1						1
	50 X 50		1	1				2
	50 X 100	2						2
	75 X 125	1						1
								9
FBH-18-01	50 X 50	2						2
	50 X 75	1	1					2
	50 X 100	2						2
								6

GOLD GRAIN DATA (SURFACE SAMPLES)

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
FBH-18-02	25 X 50	1		1		1		3
	50 X 50						1	1
	50 X 75	3	1	1			1	6
	50 X 100	1						1
	75 X 75					1		1
	75 X 100	1					1	2
	75 X 125	1						1
	100 X 125	1						1
								16
FBH-19-01	25 X 50	1						1
	25 X 75				1			1
	75 X 100		1					1
	100 X 125	1						1
								4
FBH-19-02	25 X 50		1					1
	25 X 75				1			1
	75 X 200	1						1
	100 X 125	1						1
								4
FBH-20-01	NO VISIBLE GOLD							
FBH-21-01	25 X 50	2						2
	50 X 50		1					1
	75 X 100	1						1
								4
FBH-22-01	25 X 25		2		1			3
	25 X 50		2		2			4
	50 X 50		1		1		1	3
	50 X 75			1	1			2
	50 X 125		1					1
	75 X 75				1			1
	75 X 125		1					1
	75 X 150	1						1
								16

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
FBH-23-01	25 X 25		19		2		6	27
	25 X 50		11				2	13
	25 X 75		1					1
	50 X 50		5		4			9
	50 X 75	1	9		5			15
	50 X 100		1					1
	75 X 75	1						1
	75 X 100	2	1	1		1		5
	75 X 125	2						2
	100 X 125	1				1		2
	100 X 150	1						1
	100 X 200	1						1
	100 X 250	1						1
	125 X 125	1						1
	150 X 200	1						1
								81
FBH-24-01	25 X 25	2					1	3
	25 X 50		1		1		1	3
	25 X 75		1					1
	50 X 50		2		2		1	5
	50 X 75	2	1					3
	50 X 100	2	1					3
	75 X 75	1					1	2
	75 X 125				1			1
	100 X 100	1						1
								22
FBH-25-01	25 X 25				1		1	2
	25 X 50		2		1		1	4
	50 X 75	2	1				1	4
	50 X 150	1						1
	75 X 100		2			1		3
	100 X 100	1						1
								15
FBH-25-02	25 X 25		2		1		1	4
	25 X 50		1					1
	50 X 75		2					2
	50 X 100				1			1
	75 X 75	1						1
	75 X 125	1						1
	100 X 125		2					2
	300 X 525	1						1
								13

GOLD GRAIN DATA (SURFACE SAMPLES)

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
FBH-26-01	25 X 25		1					1
	25 X 50		2					2
	50 X 50		1					1
	50 X 75	2						2
	75 X 125	2						2
	125 X 125	1						1
								9
FBH-31-01	25 X 25				1		2	3
	50 X 75	1	1					2
								5
FBH-33-01	25 X 25				1			1
	25 X 50	1						1
	50 X 50	1			1			2
	50 X 75	1						1
	75 X 75	1						1
	75 X 100	1						1
								7
FBH-34/35	25 X 25		2		1	2		5
	25 X 50		2			1		3
	50 X 50	2	3			1		6
	50 X 75	1	1					2
	50 X 100	1						1
	75 X 100				1			1
	125 X 200	1						1
								19
FBH-36-01	25 X 25		3					3
	25 X 50	1	1			1		3
	50 X 50					1		1
	50 X 75	1			1			2
	50 X 100	1						1
	75 X 75		1					1
								11
FBH-37-01	25 X 50		1					1
	50 X 50	1						1
	50 X 100					1		1
	75 X 75	1						1
	75 X 150	1						1
	75 X 200	1						1
	100 X 125	1						1
								7

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
FBH-38-01	25 X 25	1						1
	25 X 50				1			1
	25 X 75	1						1
	50 X 75	1						1
	50 X 125						1	1
								5
FBH-39-01	NO VISIBLE GOLD							
FBH-40-01	50 X 125			1				1
	75 X 75		1					1
	100 X 150		1					1
	150 X 225	1						1
								4
FBH-41-01	25 X 25		1					1
	50 X 50		2					2
	50 X 75		1		1			2
	50 X 125		1					1
	75 X 75	1						1
	75 X 100				1			1
								8
FBH-42-01	25 X 50	1	1					2
	50 X 50	1	1					2
	50 X 75		2					2
	75 X 100	1			1			2
	75 X 125	1						1
								9
FBH-44-01	NO VISIBLE GOLD							
AV-214	NO VISIBLE GOLD							
AV-334	25 X 25		1					1
	25 X 50		1					1
	25 X 75		1		1			2
	50 X 50		1					1
	50 X 75				2			2
	75 X 75	2						2
	75 X 150	1						1
								10
E-11	NO VISIBLE GOLD							
E-31U	25 X 25		2					2
	75 X 100	1						1
								3
E-31L	NO VISIBLE GOLD							
E-47	NO VISIBLE GOLD							
E-54	NO VISIBLE GOLD							
E-56	NO VISIBLE GOLD							
E-83	NO VISIBLE GOLD							
E-103	NO VISIBLE GOLD							
E-166	NO VISIBLE GOLD							

GOLD GRAIN DATA (SURFACE SAMPLES)

SAMPLE #	DIAMETER	NUMBER OF GRAINS: ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
E-167	NO VISIBLE GOLD							
E-171	NO VISIBLE GOLD							
E-187	NO VISIBLE GOLD							
E-191	NO VISIBLE GOLD							
E-196	NO VISIBLE GOLD							
E-210	NO VISIBLE GOLD							
E-225	NO VISIBLE GOLD							
E-231	NO VISIBLE GOLD							
E-241	NO VISIBLE GOLD							
E-304	NO VISIBLE GOLD							
E-311	NO VISIBLE GOLD							
E-320	NO VISIBLE GOLD							
E-337B	NO VISIBLE GOLD							
E-337A	NO VISIBLE GOLD							
E-341	NO VISIBLE GOLD							
E-346	NO VISIBLE GOLD							
E-351	NO VISIBLE GOLD							
E-353	NO VISIBLE GOLD							
E-434	NO VISIBLE GOLD							
E-435B	NO VISIBLE GOLD							
E-442	NO VISIBLE GOLD							
NB-1	325 X 375	1						1
								1
NB-2	25 X 25			1				1
	50 X 50			1		1		2
	50 X 75			2				2
	50 X 100	1		1				2
	75 X 75	1						1
	75 X 100	1						1
	100 X 175	1						1
								10
NB-3	25 X 50			1				1
	50 X 100			1				1
	75 X 75	1						1
								3
NB-4G	25 X 25			1				1
	25 X 50			1				1
	50 X 50	1						1
	50 X 125	2						2
	75 X 100	1		1				2
	100 X 150	1						1
								8
NB-4R	25 X 25					1		1
	50 X 75			1				1
	75 X 100			2				2
	150 X 225	1						1
								5

SAMPLE #	DIAMETER	NUMBER OF GRAINS: ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
NB-5L	NO VISIBLE GOLD							
NB-9	25 X 25				1			1
	75 X 75					1		1
	100 X 175			1				1
								3
NB-18	25 X 25			1	1			2
	25 X 50	1		1	2			4
	25 X 100		1					1
	50 X 75	1				1		2
	75 X 75					1		1
								10
NB-165B	NO VISIBLE GOLD							
NB-207	NO VISIBLE GOLD							
NB-218	25 X 50						1	1
	100 X 100	1						1
								2
NB-220	NO VISIBLE GOLD							
NB-223	NO VISIBLE GOLD							
NB-227	25 X 25						2	2
	25 X 50		1					1
	25 X 75						2	2
	50 X 50			1				1
								6
NB-228	25 X 25		1				1	2
	50 X 75	1						1
	50 X 100					1		1
	75 X 125					1		1
	100 X 125			1				1
								6
NB-229	NO VISIBLE GOLD							
NB-231	NO VISIBLE GOLD							
NB-232A	50 X 50	1						1
								1
NB-232B	NO VISIBLE GOLD							
NB-233	NO VISIBLE GOLD							
NB-234	NO VISIBLE GOLD							
NB-236	25 X 50	1			1			2
								2
NB-238	NO VISIBLE GOLD							
NB-240	25 X 50	1						1
								1

GOLD GRAIN DATA (SURFACE SAMPLES)

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
NB-241	NO VISIBLE GOLD							
NB-242	NO VISIBLE GOLD							
NB-243	NO VISIBLE GOLD							
NB-244	75 X 100			1				1
								1
NB-248	NO VISIBLE GOLD							
NB-250	175 X 225	1						1
								1
NB-253	NO VISIBLE GOLD							
NB-262	50 X 50	1						1
								1
NB-264	25 X 25		1				1	2
	50 X 50		1					1
	75 X 125				1			1
	150 X 175					1		1
								5
NB-265	25 X 25		1					1
	75 X 150					1		1
								2
NB-266	50 X 100	1						1
								1
NB-267	25 X 25						4	4
	25 X 50						1	1
	25 X 75						1	1
	50 X 100	1						1
	100 X 175			1				1
								8
NB-268	25 X 25						1	1
	50 X 100	1						1
	100 X 125			1				1
								3
NB-269	25 X 50	1						1
								1
NB-270	NO VISIBLE GOLD							

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
NB-271	25 X 25	1						1
	25 X 50		1				1	2
	50 X 50			1				1
								4
NB-272	NO VISIBLE GOLD							
NB-273	NO VISIBLE GOLD							
NB-274	NO VISIBLE GOLD							
NB-276	NO VISIBLE GOLD							
NB-277	NO VISIBLE GOLD							
NB-279	NO VISIBLE GOLD							
NB-281	NO VISIBLE GOLD							
NB-282	50 X 50				1			1
	50 X 75		1					1
	125 X 150	1						1
								3
NB-283	NO VISIBLE GOLD							
NB-285	NO VISIBLE GOLD							
NB-287	50 X 75		1	1				2
	75 X 150	1						1
	75 X 200	1						1
								4
NB-288	NO VISIBLE GOLD							
NB-290	NO VISIBLE GOLD							
NB-291	NO VISIBLE GOLD							
NB-292	NO VISIBLE GOLD							
NB-294	25 X 50		2		1			3
	25 X 75						1	1
	50 X 100		1					1
	75 X 125			1				1
								6
NB-295	25 X 100		1					1
	50 X 75						1	1
	100 X 150	1						1
								3
NB-296	NO VISIBLE GOLD							
NB-298	NO VISIBLE GOLD							
NB-299	NO VISIBLE GOLD							
NB-323	NO VISIBLE GOLD							
NB-343	25 X 75	1	1					2
	50 X 75		1					1
	100 X 150	1						1
	200 X 200	1						1
								5
NB-345	NO VISIBLE GOLD							
NB-357	NO VISIBLE GOLD							
NB-369	NO VISIBLE GOLD							

GOLD GRAIN DATA (SURFACE SAMPLES)

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
NB-384	NO VISIBLE GOLD							
NB-386	NO VISIBLE GOLD							
NB-388	NO VISIBLE GOLD							
NB-390	NO VISIBLE GOLD							
NB-394	25 X 50		1					1
	75 X 125					1		1
								2
NB-397	NO VISIBLE GOLD							
NB-401	NO VISIBLE GOLD							
NB-402	NO VISIBLE GOLD							
NB-403	25 X 50						1	1
	50 X 100		1					1
	75 X 100	1						1
	75 X 150	1						1
								4
NB-407	25 X 50		1					1
	100 X 150	1						1
								2
NB-408	NO VISIBLE GOLD							
NB-409	NO VISIBLE GOLD							
NB-411	NO VISIBLE GOLD							
NB-412	NO VISIBLE GOLD							
NB-415	NO VISIBLE GOLD							
NB-416	NO VISIBLE GOLD							
NB-417	NO VISIBLE GOLD							
NB-418	NO VISIBLE GOLD							
NB-420	NO VISIBLE GOLD							
NB-421	NO VISIBLE GOLD							
NB-424	NO VISIBLE GOLD							
NB-426	50 X 100				1			1
	125 X 200	1						1
								2
NB-427	125 X 150	2						2
								2
NB-428	NO VISIBLE GOLD							
NB-429	NO VISIBLE GOLD							
NB-504	NO VISIBLE GOLD							
NB-508	NO VISIBLE GOLD							
NB-509	NO VISIBLE GOLD							
NB-512	NO VISIBLE GOLD							
NB-515	NO VISIBLE GOLD							
NB-517	NO VISIBLE GOLD							
NB-518	NO VISIBLE GOLD							
NB-520	NO VISIBLE GOLD							

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
NB-523	50 X 50		1					1
	50 X 75	1						1
								2
NB-527	NO VISIBLE GOLD							
NB-533	NO VISIBLE GOLD							
NB-535	NO VISIBLE GOLD							
NB-538	50 X 100			1				1
	250 X 375			1				1
								2
NB-539	25 X 25		1					1
	25 X 50		1		1			2
	50 X 50	1	2					3
	50 X 75	1						1
	75 X 125	1						1
								8
NB-541	25 X 25				1			1
	25 X 50						1	1
	75 X 75	1						1
	100 X 225	1						1
								4
NB-545	NO VISIBLE GOLD							
NB-547	NO VISIBLE GOLD							
NB-557	NO VISIBLE GOLD							
NB-561	NO VISIBLE GOLD							
NB-564	NO VISIBLE GOLD							
NB-568	NO VISIBLE GOLD							
NB-569	125 X 200	1						1
								1
NB-573	NO VISIBLE GOLD							
NB-575	NO VISIBLE GOLD							
NB-577	NO VISIBLE GOLD							
NB-587	NO VISIBLE GOLD							
NB-591	NO VISIBLE GOLD							
NB-600	NO VISIBLE GOLD							
NB-601	50 X 50					1		1
	50 X 75	1						1
	50 X 500	1						1
	50 X 125			1				1
	75 X 75	1						1
	75 X 100						1	1
	100 X 225			1				1
								7

GOLD GRAIN DATA (SURFACE SAMPLES)

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL
NB-602	50 X 50		1			1		2
	50 X 75	1						1
	50 X 125					1		1
	75 X 75			1	1	1		3
	75 X 100			1				1
	100 X 175			1				1
								7

SAMPLE #	DIAMETER	NUMBER OF GRAINS ABRADED T	ABRADED P	IRREGULAR T	IRREGULAR P	DELICATE T	DELICATE P	TOTAL

Mineralogy of -2 mm Non-magnetic Heavy Mineral Concentrate (Surface Samples)

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF
FBH-01-01	W	TILL	25	28	13	4	4	20	T	T	2	4		T	T	3
FBH-03-01	NE	TILL	3	40	45	11	1		T		T	T				T
FBH-05-01	NE	TILL	17	36	20	12	3	6			T	5		T	1	2
FBH-05-02	NE	TILL	28	43	13	6	2	4		1	2	1		T	T	1
FBH-06-01	NE	TILL	22	33	11	6	6	11			9	1	1			1
FBH-06-02	NE	TILL	24	35	11	4	4	14	T	2	3	1	T	1	1	3
FBH-08-01	NE	TILL	15	43	21	8	5	7			1	T				3
FBH-08-02	NE	TILL	14	33	29	9	4	8		T	2	1	T			6
FBH-09-01	NE	TILL	21	44	15	10	3	3		1	T	3	T			2
FBH-09-02	NE	TILL	22	44	11	9	10	4		T	T	T	T			7
FBH-10-01	NE	TILL	12	42	15	10	11	7	1	T	T	2		T		5
FBH-12-01	NE	TILL	16	35	20	12	9	6			T	1		1		5
FBH-13-01	NE	TILL	19	40	11	11	9	7		T	1	1	T			1
FBH-14-01	NE	TILL	16	42	13	12	3	10		T	1	2	1			7
FBH-14-02	NE	TILL	14	34	18	12	9	7		3	1	2				3
FBH-17-01	NE	TILL	15	42	21	12	6	2	T	T	T	2	T	T	T	6
FBH-17-02	NE	TILL	10	45	18	12	5	9	T	T	T	1	T			5
FBH-18-01	NE	TILL	11	45	12	15	8	7		T	1	T	T	1		5
FBH-18-02	NE	TILL	10	54	15	6	2	5	T	1		3		4		
FBH-19-01	NE	TILL	19	45	15	6	3	8		T		2	1	1		6
FBH-19-02	NE	TILL	18	58	5	8	3	6		1	T	1				6
FBH-20-01	NE	TILL	12	55	20	7	2	2		T		2				9
FBH-21-01	NE	TILL	17	41	22	8	3	6		T	T	2	1			5
FBH-24-01	NE	TILL	8	58	10	8	2	7	2	T	2	2		1		5
FBH-25-01	NE	TILL	9	64	13	8	4	2		T	T				T	T
FBH-25-02	NE	TILL	17	54	11	5	6	4			1	2	T	T	T	1
FBH-26-01	NE	TILL	8	58	8	6	5	8		1	1	4	1	T		1
FBH-31-01	NE	TILL	15	53	16	7	T	4	T		1	3	1			T
FBH-33-01	NE	TILL	8	52	13	14	2	4		2	2	2	T	1		T
FBH-34/35	NE	TILL	12	54	19	5	3	5		T	1	1		T		1
FBH-36-01	W	TILL	19	48	20	7	2	3			1	T				1
FBH-37-01	NE	TILL	11	63	11	8	3	3			1	T	T	T		2
FBH-38-01	NE	TILL	4	67	16	10		2	T		T	1	T	T		1
FBH-39-01	NE	TILL	5	68	16	7	3	1			T	T	T	T		1
FBH-40-01	NE	TILL	6	68	11	3	3	8		T	T	1	T	T		
FBH-41-01	NE	TILL	13	61	8	4	6	6		T	2	T		T	T	1
FBH-42-01	NE	TILL	14	54	14	10	1	4	T		2	1				T
FBH-44-01	NE	TILL	11	64	7	9	3	6			T	T		T		1
AV-214	NE	TILL	6	74	4	5	2	1				7	1			2
AV-334	NE	TILL	22	29	21	10	6	11			T	1				9
E-011	W	TILL	38	27	5	5	3	19	T	2	1	T				5
E-031A	W	TILL	27	19	6	3	6	35		T	1	1	1	1		6
E-031B	W	TILL	43	29	10	3	T	14		T	1					7
E-047	W	TILL	36	23	5	7	2	18	T	3	1	1	T	4		5
E-054	W	TILL	30	27	9	9	3	19		1				2		7
E-056	W	TILL	32	23	6	6	2	19	3	1	T	T		5	3	6
E-083	W	TILL	41	19	6	7	4	18	T	1	2	T	T	2		7
E-103	W	TILL	42	25	4	5	3	19			1	1	T	T		7
E-166	W	TILL	45	29	6	8	2	8			T	T	1	1		7
E-167	W	TILL	31	18	9	7	3	20	9			1		T	2	6
E-171	W	TILL	36	31	8	5	2	14		1	1	T	T	1	1	6
E-187	W	TILL	34	28	8	6	1	9		T	1	T	T	1	2	6
E-191	W	TILL	31	29	6	6	2	17		3	1	2	1	1	1	5
E-196	W	TILL	41	29	2	6	1	17		1	T	T	1	2	T	6
E-210	W	TILL	35	25	7	11	2	14		2	1	2	T	T	1	8
E-225	W	TILL	41	20	8	7	2	18		2	T	2	T	T		6
E-231	W	TILL	34	25	8	5	2	18	T	3	T	1	T	3	1	8
E-241	W	TILL	31	20	8	13	3	22		T	1	2	T	T	T	9
E-304	W	TILL	28	23	7	7	3	17	8	1	T	T	1	2	3	7
E-311	W	TILL	33	26	10	7	1	21		1	T	1	T	T	T	7
E-320	W	TILL	34	17	5	8	4	27	T	1	1	2	T	1	T	4
E-337A	W	TILL	43	25	3	7	3	13		1	2	2	T	1	T	5
E-337B	NE	TILL	9	45	13	9	2	17		1	3	1		T		6
E-341	W	TILL	35	25	10	6	6	12		1	1	1	T	2	1	7
E-346	W	TILL	36	22	13	3	3	18	T	2	2	1	T	T	T	4
E-351	W	TILL	35	34	2	2	2	18	T	2	T	3	T	2	T	7
E-353	W	TILL	33	29	4	4	1	20		4	1	2	1	1		8
E-434	NE	TILL	26	50	2	1	T	20		T	T	T		1		1
E-435B	W	TILL	22	46	12	5	T	11		T	T	4		T		7

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF
E-442	NE	TILL	17	53	8	16	T	5		T	1	T	T			6
NB-001	NE	TILL	6	65	13	6	1	4				4		1		5
NB-002	NE	TILL	8	66	11	4	7	3				1		T		3
NB-003	NE	TILL	7	65	9	5	1	11		1		1	T	T		4
NB-004G	NE	TILL	23	29	19	7	7	12			2	1		1		4
NB-004R	NE	TILL	11	61	13	6	3	4			T		1	1		2
NB-005L	NE	TILL	18	62	8	5	2	2			2		T	1		3
NB-009H	NE	TILL	13	54	20	3	T	2	T		2	T	T	6		1
NB-018H	NE	TILL	10	48	13	3	3	4					T	6	13	T
NB-165B	NE	TILL	6	60	23	6	1	2			1	1	T			1
NB-207	NE	TILL	25	47	10	5	T	13	T		T	T		T		1
NB-218	W	TILL	21	47	3	11	1	16	T	T	1	T	T			3
NB-220	NE	TILL	14	67	8	6	T	3			T	2				3
NB-223	NE	TILL	22	39	8	3	1	20		T	T	1		2	4	8
NB-227	NE	TILL	24	53	5	1	1	10		2	1	T	T	2	1	8
NB-228	NE	TILL	12	56	4	4	18			T	T	T	T	3	2	4
NB-229	NE	TILL	14	59	5	3	1	15		2	T	T		1		6
NB-231	NE	TILL	18	39	7	5	T	22	T	1	1	2		2	3	8
NB-232A	W	TILL	28	29	6	6	1	24		1	1	4		T		6
NB-232B	NE	TILL	16	54	7	10	1	7				4	1	T		5
NB-233	NE	TILL	17	25	2	5	2	34	T	11	2	T		2		4
NB-234	NE	TILL	20	40	5	4	1	23	1	1	T	1	T	2	2	4
NB-236	NE	TILL	22	52	5	6	T	13		1	T	1		T		6
NB-238	NE	TILL	28	48	4	7	T	9		1	1	2		T		7
NB-240	NE	TILL	30	32	12	7	2	12		3	1	1	T	T		4
NB-241	NE	TILL	23	37	7	19	1	12				T	T			4
NB-242	NE	TILL	18	46	6	13	1	11			T	4	T	1		5
NB-243	NE	TILL	25	46	10	10	1	6			T	2		T		8
NB-244	NE	TILL	24	62	5	4	1	1		T	2	T	T	1		7
NB-248	NE	TILL	24	47	7	7	2	12				1		T		6
NB-250	NE	TILL	18	68	2	2	2	2		1		3	T	2		6
NB-253	NE	TILL	10	62	3	5	T	3				18		T		9
NB-262	NE	TILL	13	49	17	10	1	7		T	T	3		T		7
NB-264	NE	TILL	19	54	4	1	3	18			T	1		T		5
NB-265	NE	TILL	18	49	T	8	6	16		T	1	2		T		4
NB-266	NE	TILL	21	33	2	15	2	22			T	5		T		4
NB-267	NE	TILL	10	78	1	8	1	T		T		2				7
NB-268	NE	TILL	24	54	3	4	3	9		1	2			T		5
NB-269	NE	TILL	15	43	2	10	4	20		1		3	T	2		3
NB-270	NE	TILL	22	56	8	4	4	2		3	T	1				7
NB-271	NE	TILL	31	43	5	9	1	10		1	T	T		T		6
NB-272	NE	TILL	8	70	8	7	1	2		2		2		T		8
NB-273	NE	TILL	23	35	12	13	1	13				3				7
NB-274	NE	TILL	13	35	2	30	8	9				3		T		3
NB-276	NE	TILL	24	32	6	22	5	11		T	T	T		T		8
NB-277	NE	TILL	13	58	2	9	9	5		1	T	3	T	T		5
NB-279	NE	TILL	15	32	18	17	5	9		2	T	2		T		4
NB-281	NE	TILL	18	34	7	16	4	19		T	1	1				3
NB-282	NE	TILL	5	75	5	6	2	5				2		T		4
NB-283	NE	TILL	14	53	6	21	1	2				3		T		6
NB-285	NE	TILL	11	49	11	15	3	7				4		T		4
NB-287	NE	TILL	11	36	4	5	13	9	T	11	T	4		7		6
NB-288	NE	TILL	19	33	9	15	9	9			1	5				7
NB-290	NE	TILL	16	45	5	7	17				5	T				5
NB-291	NE	TILL	22	53	7	8	1	5				T	4	T		6
NB-292	NE	TILL	18	51	7	10	3	9		1		1	T	T		7
NB-294	NE	TILL	21	49	6	11	3	6		3		1	T	T		7
NB-295	NE	TILL	5	52	12	6	6	12		3	1	3		T		6
NB-296	NE	TILL	20	59	5	6	2	4		T	1	3		T		8
NB-298	NE	TILL	24	48	3	12	7	3		T	T	3		T		8
NB-299	NE	TILL	21	58	6	9	1	4				1	T	T		5
NB-323	NE	TILL	8	64	16	7	T	T			1	3	T	1		T
NB-343	NE	TILL	11	63	13	5	1	1			1	1	1	1	2	T
NB-345	NE	TILL	6	70	12	3	2	2		T	T	T		3	2	T
NB-357	NE	TILL	45	37	2	1	1	9		T	1	2	1	1		3
NB-369	NE	TILL	20	59	5	7	1	5				T	3			6
NB-384	NE	TILL	6	36	40	8	2	2				2	2	1	1	1
NB-386	NE	TILL	21	62	1	5	1	5				T	5			7
NB-388	NE	TILL	23	46	10	12	1	7				T	1			6

Mineralogy of -2 mm Non-magnetic Heavy Mineral Concentrate (Surface Samples)

SAMPLE NO.	LOBE	MATERIAL	GT	EP	PX	HB	IL	HM	PY	RT	ZR	SE	SR	GO	SD	QF
NB-390	NE	TILL	17	54	9	8	2	5		1	T	4				6
NB-394	NE	TILL	4	52	24	14	2	T			1	1		1	1	1
NB-397	NE	TILL	15	70	1	4	T	5		1	T	4		T		6
NB-401	NE	TILL	14	64	7	4	5	3		T	T	3	T			8
NB-402	NE	TILL	35	41	2	4	3	9		2	T	3		1		6
NB-403	NE	TILL	23	57	2	2	3	9		1		2		1		5
NB-407	NE	TILL	25	48	4	10	3	6		1	T	3		T		5
NB-408	NE	TILL	22	59	4	5	1	4		1	T	4				8
NB-409	NE	TILL	20	49	4	9	4	12		T		2		T		8
NB-411	NE	TILL	22	58	8	5	3	3		T	T	1	T	T		7
NB-412	NE	TILL	35	51	2	8	1	3		T	T	T	T	T		7
NB-415	NE	TILL	18	47	11	6	4	8				6	T			5
NB-416	NE	TILL	22	42	5	11	3	12		T		5				6
NB-417	NE	TILL	20	39	14	12	4	7			T	T	4			7
NB-418	NE	TILL	18	38	20	18	4	1		T	T	1				7
NB-420	NE	TILL	16	42	17	14	1	3			T	7				5
NB-421	NE	TILL	27	35	6	17	9	2			1	3				4
NB-424	NE	TILL	30	33	10	11	3	10		T	T	3				7
NB-426	NE	TILL	27	46	7	14	1	3		T	T	2				7
NB-427	NE	TILL	32	37	3	14	4	5		2	T	3				4
NB-428	NE	TILL	12	33	19	20	4	11			T	1				6
NB-429	NE	TILL	13	38	21	20	2	2			1	3				4
NB-504	NE	TILL	15	48	11	9	3	4		1	T	9				4
NB-508	NE	TILL	15	39	22	15	1	4		T	1	3				6
NB-509	NE	TILL	21	49	10	8	2	6		T	1	3				8
NB-512	NE	TILL	21	38	22	12	1	1		2		3				9
NB-515	NE	TILL	14	46	9	12	1	13		2	T	3				10
NB-517	NE	TILL	14	53	7	10	2	7		T	1	5		1		9
NB-518	NE	TILL	15	40	12	17	2	4		1	1	8				10
NB-520	NE	TILL	15	38	14	14	3	11		1	2	1		1		9
NB-523	NE	TILL	18	60	8	4	1	4		2	T	3		T		8
NB-527	NE	TILL	25	46	7	12	1	2		1	1	5				10
NB-533	NE	TILL	21	44	9	14	1	5		2	1	3				T
NB-535	NE	TILL	22	44	4	12	1	6		4	1	4		2		9
NB-538	NE	TILL	14	59	8	9	1	7		T	1	1				10
NB-539	NE	TILL	20	50	9	9	1	4		T	2	5	T			9
NB-541	NE	TILL	7	61	8	11	3	5		1		4				11
NB-545	NE	TILL	12	42	18	16	1	8		T	1	2	T			15
NB-547	NE	TILL	9	37	20	18	4	10		1	T	1				12
NB-557	NE	TILL	9	69	7	5	3	3		2	1	1				9
NB-561	NE	TILL	3	85	2	6	T	2		T	T	2				5
NB-564	NE	TILL	15	46	15	4	4	6		3	T	7				9
NB-568	NE	TILL	7	72	6	2	2	3		1	1	6				12
NB-569	NE	TILL	13	61	7	5	4	6	T	1	T	3				13
NB-573	NE	TILL	19	44	3	4	6	15		3	1	5				14
NB-575	NE	TILL	18	51	6	4	8	8		1	1	3				8
NB-577	NE	TILL	16	52	11	9	2	4		1	T	5				14
NB-587	NE	TILL	22	56	5	7	4	4		T	T	2				11
NB-591	NE	TILL	22	47	5	9	4	7		2	T	4				7
NB-600	NE	TILL	10	52	20	10	3	4				T	1	T		T
NB-601	NE	TILL	13	55	17	4	2	6			2	1	T	T		1
NB-602	NE	TILL	7	65	16	3	6	2			T	1	T			1

Geochemistry of -0.063 mm Fraction (Surface Samples)

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)
FBH-01-01G	2	4.0	0.3	2	-0.1	17.5	11	47.4	16	83	6	404
FBH-03-01G	10	4.0	0.2	1	0.1	103.8	10	158.3	113	260	32	432
FBH-05-01G	2	3.5	0.3	-1	-0.1	29.6	11	48.2	22	89	7	532
FBH-05-02G	3	5.0	0.3	1	-0.1	38.2	12	39.9	17	103	8	600
FBH-06-01G	5	1.5	0.2	-1	-0.1	35.8	9	73.2	42	126	18	476
FBH-06-02G	-1	3.0	0.3	3	-0.1	14.4	9	37.1	19	67	5	744
FBH-07-01G	1	2.0	0.3	-1	-0.1	22.9	9	37.5	33	163	14	598
FBH-08-01G	3	1.5	0.2	-1	-0.1	23.1	3	26.1	19	118	3	524
FBH-08-02G	1	-1.0	0.2	-1	-0.1	13.7	3	19.0	16	128	3	554
FBH-09-01G	6	2.0	0.2	-1	-0.1	31.7	5	31.7	29	107	5	492
FBH-09-02G	5	3.0	-0.2	-1	-0.1	23.5	5	23.9	22	117	8	536
FBH-10-01G	5	2.0	0.2	-1	-0.1	28.1	3	21.5	16	104	5	468
FBH-12-01G	3	2.5	0.2	-1	-0.1	39.1	4	25.8	24	144	11	500
FBH-13-01G	3	3.5	-0.2	-1	-0.1	66.3	3	29.7	65	304	15	458
FBH-14-01G	3	2.0	0.2	-1	-0.1	57.2	3	25.6	18	107	8	452
FBH-14-02G	8	4.0	0.2	-1	-0.1	55.1	4	28.9	15	98	7	520
FBH-15-01G	6	1.5	0.2	-1	-0.1	22.1	5	25.4	15	107	5	538
FBH-17-01G	6	4.0	0.2	1	-0.1	99.9	5	37.0	25	115	15	372
FBH-17-02G	8	3.5	0.2	-1	-0.1	110.6	5	38.8	23	129	10	392
FBH-18-01G	15	3.0	0.2	1	-0.1	115.8	4	30.0	17	212	12	372
FBH-18-02G	14	3.0	0.2	-1	-0.1	88.6	5	27.6	16	89	11	342
FBH-19-01G	3	5.0	0.2	-1	-0.1	31.8	6	12.1	12	96	10	330
FBH-19-02G	8	3.5	0.2	-1	-0.1	38.3	6	16.1	12	100	10	324
FBH-20-01G	5	2.0	0.2	-1	-0.1	165.5	5	100.6	35	108	14	396
FBH-21-01G	3	3.0	0.2	-1	-0.1	25.7	3	17.7	15	106	4	452
FBH-22-01G	17	5.0	0.2	-1	0.1	89.4	6	38.4	29	139	8	348
FBH-23-01G	23	2.0	0.3	-1	-0.1	45.6	5	30.6	24	105	11	306
FBH-24-01G	9	-1.0	0.2	-1	-0.1	42.9	4	36.0	26	137	10	354
FBH-25-01G	3	2.5	0.2	-1	0.1	41.6	3	21.0	16	72	8	302
FBH-25-02G	2	2.5	0.2	-1	-0.1	37.8	3	16.5	12	84	6	296
FBH-26-01G	7	1.0	0.2	-1	-0.1	56.3	3	28.5	21	98	10	310
FBH-31-01G	3	2.0	0.2	-1	-0.1	38.2	5	43.4	34	154	13	492
FBH-33-01G	9	2.0	0.2	-1	-0.1	32.7	5	34.8	28	122	9	380
FBH-34-01G	6	2.5	0.2	1	-0.1	122.0	3	32.3	24	195	8	330
FBH-35-01G	4	1.5	0.2	-1	-0.1	63.2	4	42.6	30	112	11	414
FBH-36-01G	5	1.0	0.3	-1	-0.1	23.6	4	21.3	16	117	6	408
FBH-37-01G	5	1.5	0.2	-1	-0.1	21.4	4	27.7	16	102	5	490
FBH-38-01G	7	3.0	0.2	-1	-0.1	112.0	6	30.8	32	179	15	288
FBH-39-01G	13	2.5	-0.2	-1	0.1	109.7	5	31.7	35	200	15	280
FBH-40-01G	10	1.5	-0.2	-1	-0.1	123.8	3	40.1	39	218	14	264
FBH-41-01G	3	2.0	0.2	-1	-0.1	44.5	5	35.0	22	91	8	436
FBH-42-01G	21	2.0	0.2	-1	-0.1	55.0	6	27.4	21	78	9	358
FBH-43-01G	13	2.0	0.2	-1	-0.1	105.3	18	70.5	59	184	17	436
FBH-44-01G	6	4.0	0.3	-1	-0.1	48.6	5	59.3	31	86	12	358
AV-214G	3	1.5	0.2	-1	-0.1	16.4	6	56.1	21	65	9	414
AV-334G	3	-1.0	0.2	-1	-0.1	25.4	4	21.2	11	85	5	430
E-011G	4	4.0	0.2	2	-0.1	18.6	13	45.9	25	76	7	414
E-031AG	4	4.0	0.4	2	-0.1	19.2	12	42.5	23	68	8	470
E-031BG	3	3.5	0.3	1	-0.1	15.9	9	38.1	23	54	6	332
E-047G	-1	2.0	0.2	2	-0.1	24.3	9	61.4	28	54	6	395
E-054G	-1	3.5	0.3	2	-0.1	16.9	7	43.8	22	55	5	376
E-056G	-1	2.5	0.2	3	-0.1	21.2	8	57.7	28	73	7	398
E-083G	-1	5.0	0.2	2	-0.1	21.3	8	47.8	27	67	7	335
E-103G	-1	5.0	0.3	2	-0.1	21.3	9	55.5	24	68	7	466
E-166G	6	5.0	0.3	1	0.3	21.4	8	46.9	31	64	7	384
E-167G	-1	4.0	0.3	2	-0.1	21.9	11	58.1	28	66	8	378
E-171G	-1	4.0	0.2	2	-0.1	16.8	9	39.9	20	45	6	321
E-187G	-1	4.0	0.2	2	-0.1	21.5	9	61.0	32	97	7	339
E-191G	-1	4.0	0.3	2	-0.1	21.0	9	46.3	22	68	5	344
E-196G	-1	4.0	0.2	2	-0.1	19.7	8	49.0	21	64	5	371
E-210G	1	5.0	0.2	2	-0.1	22.8	10	58.7	24	75	6	341
E-225G	1	4.5	0.3	2	-0.1	18.3	7	47.9	24	58	7	352
E-231G	2	7.0	0.2	2	-0.1	21.8	11	59.9	30	60	7	339
E-241G	2	6.0	0.3	2	-0.1	21.5	10	55.1	28	68	7	371
E-304G	2	5.0	0.3	2	-0.1	21.2	9	63.7	26	79	7	358
E-311G	2	4.0	0.3	1	-0.1	19.9	9	54.4	20	76	7	382
E-320G	1	4.5	0.2	2	-0.1	18.8	8	43.9	17	61	6	366
E-337AG	1	5.0	0.2	2	-0.1	23.2	8	51.9	21	60	7	374
E-337BG	3	2.0	0.2	-1	-0.1	25.1	6	33.7	21	135	7	551
E-341G	3	5.0	0.2	2	-0.1	22.7	10	57.5	23	52	7	334
E-346G	1	6.0	0.3	2	-0.1	20.7	8	49.4	21	56	6	319
E-351G	-1	8.0	0.3	3	-0.1	20.2	9	58.8	26	64	8	337

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)
E-353G	2	5.0	0.3	2	-0.1	18.8	9	51.9	22	74	7	369
E-434G	2	4.0	0.2	-1	-0.1	27.3	7	40.7	33	165	12	519
E-435BG	2	1.5	0.2	-1	-0.1	24.8	3	27.0	20	119	8	619
E-442G	3	3.0	0.2	-1	-0.1	64.2	6	40.2	29	152	10	556
NB-001G	2	1.0	0.2	-1	-0.1	26.3	-2	36.3	12	74	7	384
NB-002G	64	2.0	0.2	-1	-0.1	82.2	3	45.2	24	106	9	309
NB-003G	11	3.0	0.2	-1	-0.1	120.2	2	34.9	44	220	24	235
NB-004GG	16	15.0	0.3	-1	-0.1	106.2	5	33.9	20	112	10	410
NB-004RG	21	13.0	0.2	2	0.1	86.3	4	21.6	16	122	6	445
NB-005LG	20	3.0	0.3	6	1.2	258.7	9	35.8	43	185	12	553
NB-009G	20	4.0	0.2	6	-0.1	116.9	6	86.5	123	430	29	453
NB-018G	9	1.5	-0.2	-1	0.1	37.3	-2	61.1	27	97	13	215
NB-165BG	6	5.0	0.2	-1	-0.1	70.7	2	47.8	19	114	9	445
NB-207G	12	10.0	0.2	1	0.3	119.6	3	33.3	18	116	11	458
NB-218G	5	5.5	0.2	1	-0.1	36.4	5	42.4	14	84	9	395
NB-220G	-1	3.5	0.2	-1	0.3	22.8	2	58.0	25	104	11	513
NB-223G	14	4.0	0.2	-1	-0.1	122.9	4	73.4	36	157	17	242
NB-227G	20	4.0	0.2	8	-0.1	939.7	4	69.1	30	220	13	306
NB-228G	56	3.0	0.2	21	0.5	840.7	5	55.1	25	169	6	291
NB-229G	23	2.5	0.2	38	1.4	273.3	7	69.6	39	364	7	306
NB-231G	12	3.0	0.2	-1	-0.1	104.2	3	78.5	26	111	15	213
NB-232AG	1	4.0	0.3	2	-0.1	21.2	8	47.1	18	73	6	378
NB-232BG	2	4.0	0.2	-1	-0.1	58.2	3	58.3	24	105	11	569
NB-233G	5	2.0	0.2	-1	0.1	39.0	4	78.8	25	106	12	288
NB-234G	5	2.0	0.2	-1	0.1	15.7	3	48.0	20	119	8	343
NB-236G	10	6.0	0.3	-1	-0.1	28.7	3	30.4	20	100	9	406
NB-238G	4	6.5	0.4	-1	0.1	45.5	2	61.3	53	220	16	375
NB-240G	5	4.0	0.3	-1	-0.1	31.4	5	46.6	28	143	12	452
NB-241G	6	5.5	0.3	-1	-0.1	26.6	3	26.1	19	159	11	423
NB-242G	4	7.0	0.5	-1	-0.1	30.1	4	43.9	28	146	11	503
NB-243G	5	7.0	0.5	-1	-0.1	42.6	5	62.9	37	143	13	498
NB-244G	2	1.5	0.3	-1	-0.1	21.1	2	46.0	16	75	9	389
NB-248G	4	5.0	0.5	1	-0.1	102.2	3	57.1	43	138	19	348
NB-250G	2	1.5	0.3	-1	-0.1	29.6	2	44.7	16	69	10	411
NB-253G	2	1.0	0.3	-1	-0.1	15.0	-2	42.5	10	29	8	382
NB-262G	3	2.0	0.3	-1	-0.1	21.9	3	37.9	14	63	8	387
NB-264G	13	3.0	0.4	-1	0.6	58.5	7	451.0	32	128	13	387
NB-265G	-1	3.0	0.4	1	-0.1	30.6	4	47.0	28	120	13	302
NB-266G	16	3.0	0.4	1	0.2	42.8	5	71.2	22	109	12	411
NB-267G	9	1.0	0.4	1	0.3	51.7	2	60.0	25	86	12	460
NB-268G	3	3.0	0.2	-1	0.2	52.6	7	74.0	25	123	13	420
NB-269G	8	4.0	0.2	1	0.1	35.9	8	67.1	28	104	21	322
NB-270G	4	1.5	-0.2	-1	-0.1	14.6	6	34.0	14	97	8	405
NB-271G	9	8.5	0.2	-1	-0.1	44.3	3	38.7	17	117	13	417
NB-272G	-1	1.0	0.2	-1	-0.1	39.3	4	78.9	26	158	12	412
NB-273G	-1	4.0	0.2	-1	0.2	16.8	7	64.1	16	174	10	524
NB-274G	4	2.0	-0.2	1	0.1	133.7	10	86.4	54	168	39	434
NB-276G	4	5.0	0.2	-1	0.2	38.7	9	66.1	34	126	17	520
NB-277G	2	1.5	-0.2	-1	-0.1	14.5	5	36.3	17	123	7	496
NB-279G	4	2.5	0.2	-1	-0.1	23.1	7	40.6	21	142	12	555
NB-281G	-1	4.0	0.2	-1	-0.1	45.3	8	62.9	38	IS	14	IS
NB-283G	-1	4.5	0.2	-1	-0.1	16.6	4	46.1	18	116	10	484
NB-285G	2	3.5	-0.2	-1	0.1	27.7	5	24.8	15	202	7	525
NB-287G	49	5.0	0.2	-1	-0.1	82.7	5	70.0	26	140	19	263
NB-288G	1	2.0	-0.2	1	-0.1	20.6	8	38.1	19	208	9	669
NB-290G	1	2.5	-0.2	-1	-0.1	36.2	8	50.2	29	152	12	491
NB-291G	-1	1.0	0.2	-1	-0.1	45.8	4	24.4	17	248	8	828
NB-292G	-1	1.0	0.2	-1	-0.1	21.7	5	38.0	16	128	9	482
NB-294G	4	2.0	0.2	-1	-0.1	23.7	5	40.7	19	128	10	326
NB-295G	8	2.5	0.2	1	-0.1	25.2	5	41.7	19	103	12	334
NB-296G	5	2.0	0.2	-1	-0.1	51.0	10	57.1	21	114	11	477
NB-298G	-1	1.0	0.2	-1	-0.1	7.9	4	35.4	14	135	7	460
NB-299G	3	3.0	0.2	-1	-0.1	33.6	4	38.6	22	128	11	444
NB-323G	8	2.5	0.2	-1	-0.1	59.7	3	50.9	19	93	13	353
NB-343G	9	4.0	0.2	-1	-0.1	146.9	5	55.8	44	106	17	345
NB-345G	5	4.5	0.2	-1	-0.1	81.7	4	50.4	25	83	13	363
NB-357G	-1	5.0	0.3	-1	-0.1	31.2	9	59.4	31	112	13	514
NB-369G	-1	4.0	0.2	-1	-0.1	29.0	7	39.4	17	158	10	683
NB-384G	8	4.5	0.2	-1	-0.1	39.2	5	33.0	21	204	11	711
NB-386G	-1	1.5	0.2	-1	-0.1	17.3	6	23.4	14	134	7	769
NB-388G	-1	2.0	0.2	-1	0.2	13.8	5	18.8	12	159	6	597
NB-390G	-1	2.0	0.2	-1	-0.1	11.9	6	34.3	17	167	8	554

Geochemistry of -0.063 mm Fraction (Surface Samples)

Sample No.	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)
NB-394G	-1	1.0	-0.2	-1	-0.1	22.0	5	35.1	19	107	10	737
NB-397G	-1	1.0	0.2	-1	-0.1	13.3	6	61.8	28	103	12	546
NB-401G	11	2.5	0.2	-1	-0.1	52.6	9	53.0	28	122	8	415
NB-402G	1	3.5	0.2	1	-0.1	34.9	11	70.6	49	158	19	424
NB-403G	2	5.0	0.2	-1	-0.1	65.7	6	24.9	26	63	14	325
NB-407G	38	2.0	0.2	-1	-0.1	16.6	5	34.2	26	132	10	381
NB-408G	11	1.0	0.2	-1	-0.1	20.1	6	35.0	17	77	8	340
NB-409G	5	2.5	0.2	-1	-0.1	65.8	6	48.6	28	105	17	303
NB-411G	-1	-1.0	-0.2	-1	-0.1	10.8	5	16.6	10	55	4	458
NB-412G	1	1.0	0.2	-1	-0.1	10.1	3	24.6	15	93	6	465
NB-415G	-1	2.0	0.2	-1	-0.1	50.0	6	37.0	30	230	12	498
NB-416G	-1	1.0	0.2	-1	-0.1	16.1	8	41.2	19	112	8	546
NB-417G	2	2.0	-0.2	-1	-0.1	78.4	9	64.7	21	118	9	471
NB-418G	14	3.5	0.2	-1	-0.1	27.4	5	28.2	16	139	7	588
NB-420G	9	2.0	0.2	-1	-0.1	32.9	7	34.8	21	164	9	781
NB-421G	1	1.0	-0.2	-1	-0.1	13.9	6	64.9	26	109	12	471
NB-424G	-1	3.0	0.2	-1	-0.1	30.9	6	51.5	24	86	12	414
NB-426G	2	2.0	-0.2	-1	-0.1	17.8	4	25.3	15	110	7	379
NB-427G	5	1.0	-0.2	-1	-0.1	13.8	7	58.5	20	101	10	464
NB-428G	5	3.0	-0.2	-1	-0.1	29.2	6	33.5	18	183	8	680
NB-429G	2	2.0	-0.2	-1	0.1	17.6	7	33.5	20	166	9	689
NB-504G	1	4.5	0.2	-1	-0.1	25.9	5	37.7	16	107	9	601
NB-508G	-1	2.0	0.2	-1	-0.1	22.2	5	32.6	21	264	9	568
NB-509G	23	2.0	0.2	-1	-0.1	15.8	4	19.8	12	212	5	531
NB-512G	-1	5.0	0.4	-1	-0.1	41.2	7	29.0	17	214	11	449
NB-515G	2	7.0	0.3	-1	-0.1	34.3	6	25.4	13	160	8	634
NB-517G	-1	3.0	0.3	-1	-0.1	26.2	8	70.1	22	126	11	452
NB-518G	-1	1.0	0.3	-1	-0.1	11.5	5	39.7	16	133	6	592
NB-520G	1	2.0	0.2	-1	-0.1	16.5	5	46.1	22	135	8	498
NB-523G	3	3.0	0.3	-1	-0.1	65.3	5	17.8	13	120	5	516
NB-527G	1	1.0	0.3	-1	-0.1	13.8	6	22.0	15	112	6	519
NB-533G	22	2.0	0.3	-1	-0.1	19.0	7	38.1	22	142	9	659
NB-535G	1	9.0	0.3	1	-0.1	29.6	8	25.1	19	135	11	440
NB-538G	2	3.0	0.2	-1	-0.1	21.8	5	28.7	20	144	7	702
NB-539G	2	3.0	-0.2	-1	-0.1	18.7	5	31.0	16	151	7	742
NB-541G	6	3.0	-0.2	-1	0.2	26.6	7	43.1	17	150	9	619
NB-546G	3	-1.0	-0.2	-1	-0.1	10.5	5	15.3	9	63	5	460
NB-547G	-1	2.0	-0.2	-1	-0.1	17.5	6	32.5	15	149	8	550
NB-557G	-1	2.0	-0.2	-1	-0.1	12.5	6	30.1	11	67	7	642
NB-561G	-1	1.5	-0.2	-1	0.1	48.2	9	88.3	38	143	17	533
NB-564G	1	3.5	0.2	-1	0.4	30.1	5	51.1	27	103	12	530
NB-568G	1	3.5	0.2	1	-0.1	29.5	9	66.6	41	147	14	505
NB-569G	2	2.0	-0.2	-1	-0.1	21.0	9	31.4	19	123	10	597
NB-573G	9	2.5	0.2	-1	-0.1	23.3	7	67.5	26	125	11	428
NB-575G	2	4.0	0.2	-1	-0.1	43.0	5	41.9	22	150	11	519
NB-577G	1	1.5	-0.2	-1	0.1	18.3	6	34.6	16	119	8	460
NB-587G	3	1.0	-0.2	-1	-0.1	30.0	4	20.4	11	139	6	505
NB-591G	-1	2.0	-0.2	1	0.2	22.4	11	55.2	26	130	14	484
NB-600G	11	2.5	-0.2	-1	-0.1	53.3	5	59.5	23	116	14	347
NB-601G	4	2.5	0.2	-1	0.1	25.7	8	47.1	23	102	10	467
NB-602G	5	2.0	0.2	-1	0.1	18.7	5	35.1	19	130	8	361

Geochemistry of -2 mm Non-magnetic Heavy Mineral Concentrate (Surface Samples)

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)
FBH-01-01H	1350	IS	6	1.5	4		68.8	32	117.9	10	644	9	76
FBH-03-01H	-5	144	2	-0.2	2	-0.1	42.3	8	74.9	57	903	13	58
FBH-05-01H	56	IS	6	1.3	1	-0.1	9.7	37	20.9	5	763	3	56
FBH-05-02H	-14	IS	4	1.4	3	-0.1	11.8	32	24.3	6	788	3	51
FBH-06-01H	-23	IS	6	1.0	5	-0.1	42.1	28	65.4	34	515	10	74
FBH-06-02H	110	IS	23	2.1	5		36.0	36	35.7	24	808	21	188
FBH-08-01H	1090	529	4	0.8	2	-0.1	14.0	12	20.9	11	393	8	30
FBH-08-02H	120	51	5	0.6	1	-0.1	16.3	13	21.9	11	369	9	38
FBH-09-01H	180	62	9	0.7	2	0.1	19.1	13	25.2	13	371	7	36
FBH-09-02H	587	696	7	0.7	1	-0.1	21.2	12	35.4	11	422	10	28
FBH-10-01H	87	125	7	1.0	1	-0.1	17.0	13	25.8	14	590	13	28
FBH-12-01H	110	145	6	0.7	2	-0.1	17.3	12	24.4	12	579	8	30
FBH-13-01H	1180	IS	12	1.2	1	-0.1	30.3	16	29.2	23	793	21	38
FBH-14-01H	280	IS	9	1.4	1	-0.1	33.0	19	149.0	13	449	15	51
FBH-14-02H	180	IS	20	1.9	2	-0.1	39.8	15	41.8	14	439	16	46
FBH-15-01H	72	IS	13	1.4	2	-0.1	26.2	22	39.9	22	708	17	43
FBH-17-01H	310	558	18	1.7	2	-0.1	48.1	15	46.6	20	336	70	20
FBH-17-02H	160	238	21	1.5	2	0.3	70.6	14	38.9	26	388	61	35
FBH-18-01H	260	390	16	1.5	2	-0.1	42.2	14	43.7	17	391	19	27
FBH-18-02H	260	482	15	1.5	1	-0.1	44.2	20	537.0	15	342	17	21
FBH-19-01H	140	715	12	1.3	2	-0.1	27.0	13	34.1	16	481	13	19
FBH-19-02H	170	60	11	1.3	3	-0.1	26.2	14	44.9	15	346	12	29
FBH-20-01H	360	1117	21	1.3	3	-0.1	58.5	13	57.2	19	316	28	27
FBH-21-01H	32	29	4	0.5	2	-0.1	18.1	12	26.2	12	397	7	32
FBH-22-01H	230	390	7	1.1	2	-0.1	28.8	12	30.6	13	452	8	32
FBH-23-01H	1120	729	8	1.3	2	0.8	22.7	14	30.6	14	398	13	36
FBH-24-01H	765	790	17	2.1	2	0.2	39.4	15	38.2	21	488	39	31
FBH-25-01H	320	792	6	0.9	2	-0.1	28.2	10	30.1	12	389	18	18
FBH-25-02H	1640	1005	16	0.9	1	0.3	54.5	13	31.8	25	347	69	18
FBH-26-01H	721	184	8	1.1	2	-0.1	25.0	10	25.3	14	368	16	18
FBH-31-01H	190	IS	4	0.7	2	-0.1	21.6	13	22.4	18	619	14	23
FBH-33-01H	110	194	10	0.8	1	-0.1	26.4	14	26.6	25	591	27	29
FBH-34-01H	170	122	8	1.0	2	-0.1	48.8	14	56.8	17	534	23	47
FBH-36-01H	140	204	7	0.3	2	0.2	23.4	13	28.9	14	379	15	25
FBH-37-01H	180	180	3	0.4	-1	-0.1	16.5	10	19.7	11	403	11	25
FBH-38-01H	58	15	11	0.7	2	-0.1	54.2	13	28.6	22	338	21	18
FBH-39-01H	150	233	10	0.7	2	-0.1	39.5	10	29.2	21	352	19	20
FBH-40-01H	390	640	7	0.6	2	0.2	43.6	8	24.3	22	461	25	13
FBH-41-01H	240	IS	15	0.7	3	-0.1	23.2	13	33.2	18	383	19	23
FBH-42-01H	140	645	12	1.0	2	-0.1	24.9	12	27.9	17	324	21	23
FBH-44-01H	28	IS	19	1.4	2	-0.1	35.0	15	44.6	24	401	14	41
AV-214H	47	IS	2	0.2	-1	-0.1	9.8	8	16.2	5	166	7	29
AV-334H	360	1422	-1	0.3	2	0.3	17.8	18	28.2	10	243	11	56
E-011H	-10	IS	8	1.7	4		18.0	30	233.0	11	654	11	97
E-031AH	260	IS	4	1.0	3		9.7	34	35.8	5	911	7	70
E-031BH	-25	IS	8	2.1	4		13.0	36	35.0	10	588	10	1660
E-047H	-10	IS	19	2.4	6		70.7	51	157.7	27	614	25	2510
E-054H	91	IS	6	1.6	2		11.5	32	31.4	8	893	6	72
E-056H	-16	IS	57	3.1	9		83.7	76	156.0	53	476	40	1720
E-083H	50	IS	-12	2.0	IS		IS	IS	IS	IS	568	IS	163
E-103H	-24	IS	7	1.9	5		12.5	40	50.7	12	757	8	6690
E-166H	-14	IS	7	1.5	2		7.2	28	17.8	7	688	5	222
E-167H	16	IS	83	2.6	7		111.9	66	186.5	60	601	38	1560
E-171H	38	IS	9	1.4	3		14.2	30	28.8	7	870	5	110
E-187H	-16	IS	11	1.8	5		12.1	37	34.7	10	812	7	6640
E-191H	-16	IS	10	1.7	5		8.5	30	20.5	7	781	5	845
E-196H	-15	IS	8	1.6	4		10.4	30	23.2	11	727	7	330
E-210H	33	IS	14	1.9	IS		IS	IS	IS	IS	752	IS	927
E-225H	-25	IS	14	1.3	3		8.9	23	32.4	9	710	6	623
E-231H	-23	IS	17	2.0	4		30.5	39	153.2	16	629	16	3700
E-241H	-25	IS	-5	1.6	7		17.7	37	142.3	25	IS	10	IS
E-304H	-16	IS	54	2.4	10		78.4	52	135.3	89	614	47	1230
E-311H	-18	IS	12	2.0	8		17.8	31	29.0	40	725	7	1360
E-320H	-23	IS	13	1.3	5		59.4	31	52.5	24	733	8	160
E-337AH	-26	IS	12	1.4	4		14.1	22	33.9	21	IS	8	IS
E-337BH	330	IS	-2	0.5	1	-0.1	16.2	19	16.3	12	315	14	32
E-341H	851	IS	7	1.7	20		24.6	28	31.7	21	766	8	2030
E-346H	-17	IS	9	1.8	3		18.6	31	28.6	6	796	9	435
E-351H	130	IS	9	1.9	4		43.1	38	31.6	12	745	10	2000
E-353H	91	IS	5	1.8	4		17.9	35	50.4	7	837	6	1730
E-434H	180	IS	4	0.6	3	-0.1	21.7	29	25.8	16	471	24	43

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)
E-435BH	80	IS	3	0.5	7		15.5	22	45.3	7	264	13	83
E-442H	-5	IS	4	0.5	3	-0.1	7.8	10	16.1	13	263	5	8
NB-001H	845	136	2	0.3	1	-0.1	13.5	9	34.0	8	161	7	6
NB-002H	430	608	7	0.7	2	-0.1	41.2	10	51.5	11	290	4	3
NB-003H	99	6980	10	0.6	1	-0.1	53.2	8	29.8	30	326	62	6
NB-004GH	300	428	5	0.7	2	-0.1	29.9	11	26.0	8	401	6	14
NB-004RH	759	IS	5	0.7	1	-0.1	20.4	9	42.2	7	363	4	25
NB-005LH	160	IS	11	3.0	3	-0.1	62.2	10	35.9	13	1280	10	25
NB-009H	260	438	44	2.5	8	0.2	60.6	18	71.0	104	2590	186	76
NB-018H	350	IS	22	1.9	3	-0.1	183.1	29	196.7	42	1840	124	45
NB-165BH	330	1272	10	0.7	2	-0.1	22.3	14	37.4	13	308	16	18
NB-207H	596	2702	24	1.2	4	-0.1	57.2	16	54.1	22	336	37	12
NB-218H	130	IS	10	1.0	2	-0.1	18.4	23	31.3	12	580	12	30
NB-220H	210	880	12	0.7	4	-0.1	13.4	14	39.5	13	325	26	21
NB-223H	35	IS	15	1.7	2	-0.1	50.2	15	48.7	21	562	30	21
NB-227H	564	IS	12	2.5	4	-0.1	360.0	17	53.8	21	428	21	21
NB-228H	872	IS	14	3.1	10	0.2	278.0	17	50.7	22	454	19	24
NB-229H	160	IS	13	2.3	13	-0.1	107.3	26	60.1	28	1194	29	32
NB-231H	100	IS	23	1.7	5	0.2	146.6	32	94.3	44	1050	144	42
NB-232AH	440	IS	7	1.3	7		21.5	35	43.0	11	646	13	39
NB-232BH	100	IS	8	0.5	5	-0.1	26.1	16	33.9	12	291	17	25
NB-233H	20	IS	50	2.7	4	IS	219.7	82	119.5	51	900	317	47
NB-234H	480	IS	39	2.6	5	-0.1	117.2	71	86.0	41	2480	155	89
NB-236H	120	IS	43	2.7	3	-0.1	40.4	22	97.5	35	424	38	17
NB-238H	330	IS	30	1.9	3	-0.1	34.9	18	60.9	27	491	38	14
NB-240H	60	IS	28	1.5	2	-0.1	28.5	18	65.2	21	350	21	46
NB-241H	64	65	13	0.7	4	-0.1	25.3	17	44.2	17	399	21	28
NB-242H	12	IS	16	0.9	4	-0.1	22.4	25	48.9	15	394	21	25
NB-243H	72	IS	13	0.7	3	-0.1	22.3	68	46.0	16	393	19	34
NB-244H	160	IS	3	0.4	3	-0.1	15.6	12	24.9	8	197	12	17
NB-248H	12	IS	12	1.5	4	-0.1	39.7	16	52.7	22	258	20	25
NB-250H	-5	IS	4	0.4	4	-0.1	20.2	12	22.8	10	293	12	11
NB-253H	-5	IS	-1	0.2	5	-0.1	11.0	13	17.7	5	126	4	17
NB-262H	27	62	3	0.4	4	-0.1	19.9	14	27.4	10	244	11	19
NB-264H	2330	IS	12	2.2	3	-0.1	51.0	22	163.9	27	824	52	32
NB-265H	300	IS	22	1.3	4	0.3	38.3	19	87.9	31	946	18	24
NB-266H	450	IS	20	1.7	6	-0.1	37.3	19	86.3	22	368	23	43
NB-267H	797	IS	3	0.6	7	-0.1	30.7	17	34.6	5	335	5	32
NB-268H	819	IS	28	2.1	4	-0.1	47.6	23	75.4	31	442	40	24
NB-269H	20	IS	51	3.0	5	-0.1	57.4	18	100.1	53	289	57	22
NB-270H	65	IS	-1	0.4	3	-0.1	7.8	13	24.1	5	442	5	14
NB-271H	100	214	32	2.2	5	-0.1	30.9	20	66.8	25	410	14	22
NB-272H	90	IS	4	0.5	3	-0.1	28.0	16	33.6	13	442	12	10
NB-273H	34	45	12	0.8	6	-0.1	24.1	20	40.5	24	370	20	47
NB-274H	-5	IS	-1	-0.2	5	-0.1	22.2	6	39.5	13	140	15	36
NB-276H	-5	IS	6	0.6	4	-0.1	19.7	87	43.0	12	355	9	31
NB-277H	66	IS	2	0.4	3	-0.1	6.8	17	31.7	6	407	3	13
NB-279H	-5	IS	4	0.4	4	-0.1	14.8	19	31.9	18	523	3	23
NB-281H	130	IS	5	0.7	6	-0.1	20.7	22	46.2	32	712	5	39
NB-282H	270	IS	5	0.3	4	-0.1	10.6	15	20.5	9	308	14	37
NB-283H	-5	IS	-2	0.3	4	-0.1	7.3	17	20.1	8	226	6	13
NB-285H	40	IS	10	0.6	4	-0.1	30.4	16	39.8	21	486	35	21
NB-287H	1000	IS	71	3.6	5	-0.1	168.2	28	128.5	63	541	201	98
NB-288H	140	IS	4	0.7	6	-0.1	20.1	24	31.0	10	487	7	29
NB-290H	27	IS	-2	0.3	4	-0.1	34.0	22	46.3	17	832	10	42
NB-291H	66	IS	-1	0.5	7	-0.1	32.3	26	66.2	8	506	7	13
NB-292H	-5	IS	-1	0.5	3	-0.1	13.2	13	23.2	6	345	6	11
NB-294H	310	IS	12	1.2	3	-0.1	24.4	15	46.7	19	434	14	16
NB-295H	615	IS	36	2.5	6	-0.1	41.3	14	67.9	37	266	36	19
NB-296H	-13	IS	-3	0.8	5	-0.1	90.1	23	87.0	7	262	7	14
NB-298H	140	IS	3	0.7	3	-0.1	13.1	15	30.8	6	387	4	11
NB-299H	79	IS	7	0.9	4	0.2	21.1	20	41.3	20	356	7	16
NB-323H	180	1106	17	0.8	5	-0.1	56.3	13	49.3	21	260	28	19
NB-343H	65	155	15	1.1	4	-0.1	40.2	15	38.4	21	364	22	11
NB-345H	65	87	21	1.0	5	-0.1	32.0	13	52.9	22	291	18	22
NB-357H	28	IS	13	1.6	4	IS	19.6	31	36.1	8	419	15	45
NB-369H	63	IS	5	0.6	3	-0.1	18.1	17	21.0	9	397	10	28
NB-384H	20	58	2	0.3	3	-0.1	17.4	15	18.9	11	578	11	17
NB-386H	61	IS	3	0.6	5	-0.1	12.0	20	16.4	7	428	7	14
NB-388H	44	47	2	0.4	3	-0.1	12.7	14	28.8	9	396	11	22
NB-390H	-5	4	2	0.4	3	-0.1	12.5	17	46.6	10	462	9	30

Geochemistry of -2 mm Non-magnetic Heavy Mineral Concentrate (Surface Samples)

Sample No.	Au INAA (ppb)	Au FA-DCP (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)
NB-394H	64	37	-1	0.4	2	-0.1	8.1	14	22.1	9	439	7	22
NB-397H	21	-1	4	0.4	3	-0.1	5.5	10	11.5	4	203	6	14
NB-401H	310	IS	-2	0.5	3	-0.1	14.9	20	27.1	5	431	3	11
NB-402H	160	IS	-2	0.9	4	-0.1	9.1	17	26.0	9	874	4	16
NB-403H	521	IS	8	0.9	3	-0.1	9.1	19	32.2	8	898	5	5
NB-407H	220	IS	17	1.0	5	-0.1	30.4	16	165.3	22	389	24	25
NB-408H	71	IS	-1	0.6	4	-0.1	6.2	12	18.2	4	333	2	11
NB-409H	270	IS	25	1.6	6	-0.1	49.4	18	48.5	34	315	50	14
NB-411H	120	IS	4	0.9	3	-0.1	9.5	8	41.8	6	255	10	44
NB-412H	240	IS	5	0.5	3	-0.1	8.0	15	45.3	5	460	4	8
NB-415H	20	IS	-1	0.4	5	-0.1	13.5	13	28.1	5	462	2	27
NB-416H	34	IS	3	0.5	7	0.1	8.5	16	19.4	13	509	6	18
NB-417H	48	IS	-3	0.3	4	-0.1	22.4	19	36.6	7	354	5	30
NB-418H	44	118	6	0.6	5	-0.1	31.4	20	40.3	10	440	9	24
NB-420H	80	IS	-3	0.4	9	-0.1	16.9	16	21.0	11	393	7	39
NB-421H	26	IS	3	0.2	5	-0.1	44.6	21	93.3	3	351	4	21
NB-424H	150	IS	-3	0.4	5	-0.1	8.3	20	31.0	6	523	5	18
NB-426H	260	IS	6	0.5	5	-0.1	13.4	15	24.8	6	590	5	12
NB-427H	516	IS	-2	0.5	5	0.3	7.6	19	26.1	4	384	4	21
NB-428H	-5	3	3	0.4	4	0.2	14.1	15	24.0	17	644	10	38
NB-429H	22	-1	2	0.3	4	-0.1	10.3	8	17.5	11	500	4	22
NB-504H	-5	-1	4	0.6	6	0.3	16.3	18	26.0	10	363	8	26
NB-508H	16	31	-1	0.3	4	0.1	13.8	14	22.4	13	593	8	13
NB-509H	15	44	-1	0.3	4	0.1	15.8	15	20.4	16	718	10	22
NB-512H	38	110	7	1.2	5	-0.1	15.2	14	25.2	10	386	7	22
NB-515H	27	24	3	0.6	5	-0.1	11.7	14	19.9	10	499	7	6
NB-517H	14	IS	3	0.6	6	-0.1	9.7	17	21.2	8	407	10	33
NB-518H	-11	IS	-2	0.4	7	-0.1	7.9	25	18.8	6	474	4	20
NB-520H	26	IS	-4	0.7	5	-0.1	36.6	22	18.0	7	451	5	39
NB-523H	52	IS	-2	0.5	3	0.2	13.7	14	12.2	2	378	1	20
NB-527H	-5	IS	2	0.5	6	-0.1	16.8	15	23.2	4	312	2	20
NB-533H	-5	IS	3	0.5	6	-0.1	23.5	23	34.1	14	419	38	52
NB-535H	-13	IS	3	0.6	12	-0.1	14.2	19	19.3	9	415	8	39
NB-538H	731	3382	6	0.7	5	-0.1	12.2	17	25.9	10	485	5	26
NB-539H	100	287	-3	0.8	8	0.2	15.2	22	22.1	11	471	8	56
NB-541H	88	6	3	0.5	6	0.1	12.6	20	26.3	9	386	8	55
NB-545H	120	IS	-2	0.4	5	0.3	9.2	15	20.4	9	466	7	21
NB-547H	41	107	3	0.4	6	0.1	12.8	14	22.2	12	497	7	38
NB-557H	-5	IS	-2	0.4	4	-0.1	10.5	18	75.5	2	345	2	21
NB-561H	-5	IS	-1	-0.2	5	-0.1	13.9	17	23.5	7	211	4	27
NB-564H	39	IS	-3	0.5	8	0.1	9.9	23	22.7	7	391	5	31
NB-568H	-5	IS	-3	0.3	7	-0.1	7.5	24	19.9	4	353	3	3
NB-569H	569	IS	-3	0.5	6	-0.1	10.9	28	18.7	7	394	6	18
NB-573H	59	IS	6	0.5	4	-0.1	14.9	20	35.2	9	362	8	4
NB-575H	63	IS	12	0.6	5	-0.1	29.8	20	38.7	13	506	22	46
NB-577H	50	IS	-2	0.4	4	0.3	9.2	15	16.6	5	355	2	11
NB-587H	54	IS	-2	0.5	2	-0.1	10.5	15	22.5	2	455	3	4
NB-591H	350	IS	-4	0.5	4	-0.1	9.9	26	51.3	4	492	5	61
NB-600H	120	246	8	0.6	5	-0.1	23.8	14	82.3	13	265	16	25
NB-601H	635	IS	10	1.3	3	0.1	18.2	21	41.7	17	472	14	11
NB-602H	340	338	6	0.9	4	-0.1	16.3	15	34.6	18	829	9	14

HEAVY MINERALS OF ECONOMIC INTEREST

Gold Grains

Significant numbers of gold grains were recovered from till and glaciofluvial sand samples collected within the report area. A gold grains map highlighting the numbers and shapes of gold grains recovered from these samples has been released (Bajc 1988b; Map P.3140; in pocket). The occurrence of large numbers of gold grains in the heavy mineral fraction is of interest to explorationists because they are a direct indication of mineralization. Where several adjacent (vertical) till samples from drill core yield gold grain counts exceeding the regional background, it is likely that the source is nearby in the "up ice" direction. High counts of visible gold grains are particularly significant when they occur in till samples taken directly above bedrock (drill or surface samples) indicating an immediate proximity to mineralization. Gold grains occurring in glaciofluvial sand samples are generally more difficult to trace to source due to their erratic distribution and greater distance of transport.

The shape and surface morphology of the gold grains may be used to suggest a distance of transport by glacial processes (Averill et al. 1986). This is accomplished by assigning the grains to one of three categories based on appearance. Grains classified as "delicate" are characterized by primary crystal faces, pitted leaf surfaces, and intact ragged leaf edges. The transport

distance of such gold grains is usually less than 100 m. Irregularly shaped gold grains have been transported between 100 m and 1000 m. The surfaces of these gold grains are pitted, with the grains either retaining their gross primary shape or having become curled. Abraded gold grains have generally travelled in excess of 1000 m, and have polished surfaces. These grains have a spindled shape or have been reduced to smaller grains.

The borehole and surface sample datasheets included in this report summarize the total number, size, and shape of gold grains recovered from till and sand samples.

In the Fort Frances-Rainy River area, only 8% of the upper, western derived till samples contain gold grains, whereas 56% of the lower, northeastern derived drift samples contain gold grains. This difference is probably a manifestation of the marked difference in provenance between the two till sheets. Background gold grain values are 0 to 1 and 2 to 5 grains for the upper and lower till units, respectively.

Some generalizations can be made about the sizes of gold grains recovered from both surface and borehole samples of northeastern derived till. Approximately 80% of all the gold grains recovered from both surface and borehole samples have dimensions of 100 μm or less (Figures 8 and 9). Dimensions of 25 to 75 μm are the most common. The apparent small size of gold grains contained within northeastern derived till may reflect either their transport distance or

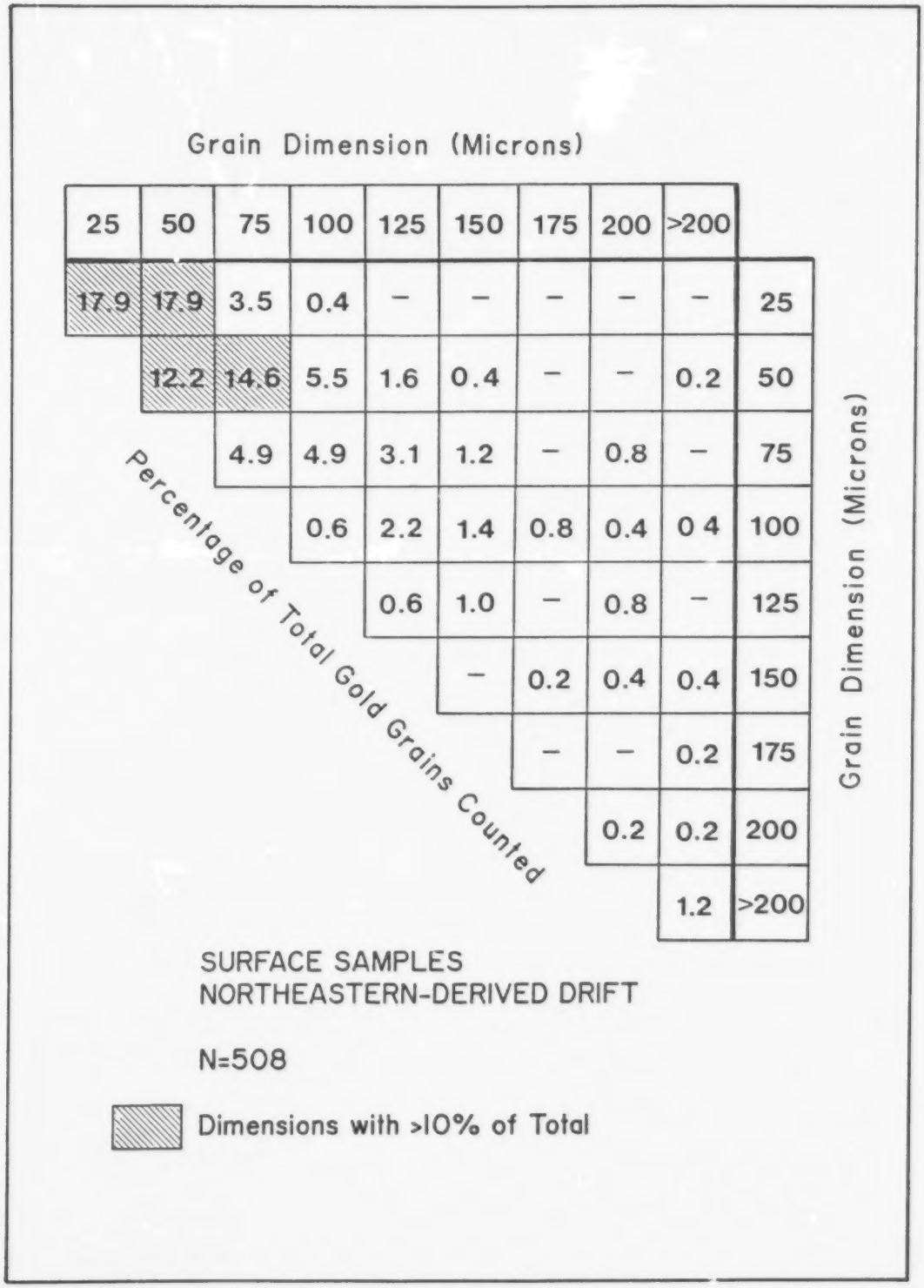

Grain Dimension (Microns)
25 50 75 100 125 150 175 200 >200
17.9 17.9 3.5 0.4 – – – – – 25
12.2 14.6 5.5 1.6 0.4 – – 0.2 50
4.9 4.9 3.1 1.2 – 0.8 – 75
0.6 2.2 1.4 0.8 0.4 0 4 100
0.6 1.0 – 0.8 – 125
– 0.2 0.4 0.4 150
– – 0.2 175
0.2 0.2 200
1.2 >200
Percentage of Total Gold Grains Counted
Grain Dimension (Microns)
SURFACE SAMPLES
NORTHEASTERN-DERIVED DRIFT
N=508
Dimensions with >10% of Total

Figure 8. Gold grain dimensions for surface samples of northeastern derived till.

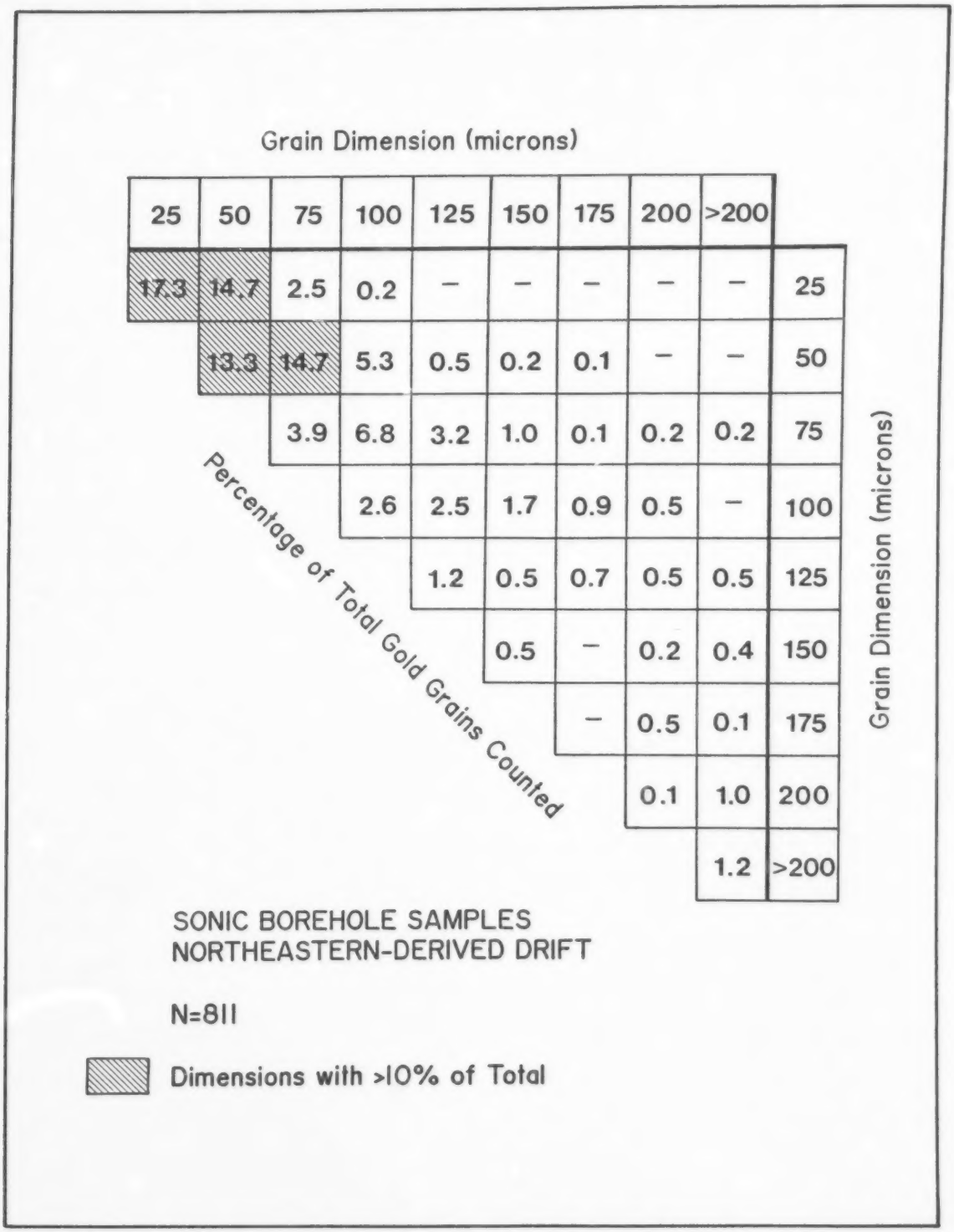


Figure 9. Gold grain dimensions for borehole samples of northeastern derived till.

origin. They may also give us a clue as to the nature of gold mineralization within the greenstone belt, that is, gold may occur primarily as silt and clay-sized particles within the host rock. This has important implications for the interpretation of non-magnetic heavy mineral geochemistry and threshold anomalies. A strong correlation between numbers of gold grains per sample and neutron activation values for gold on the non-magnetic heavies is often lacking since the grains are very small. The explorationist should consider a sample containing a large number of small, delicate gold grains as significant even if the geochemical response is marginally anomalous or non-anomalous.

The gold grain data presented in this report may be used as a targetting mechanism for further exploration. A large number of backhoe and borehole samples collected from Nelles, Patullo, Tait, Morley, Shenston, Richardson, and Potts townships contain in excess of 10 gold grains per 7 to 10 kg sample (Bajc 1988b). These samples form a northeast trending belt, 10 to 15 km wide, that may define a zone where the potential for gold mineralization is greatly enhanced. Of particular interest, are those samples collected from an area immediately adjacent to the Quetico Fault Zone in Patullo, Tait, and Morley townships (FBH-12, FBH-13, FBH-14, FBH-22, FBH-23, FBH-24, FBH-25, F88-05, and F88-07).

Borehole F88-11 is located north of the Quetico Fault in a mafic volcanic terrain which displays an anomalous magnetic signature (Blackburn 1976). An unusually large number of small gold grains, most of which display irregular and delicate shapes, were recovered from a 7 m thickness of till directly overlying saprolitic bedrock. Thirteen crystalline gold grains, measuring 25 to 50 μm, were panned from a 4 to 5 kg sample of the weathered bedrock. The shapes and surface textures of the grains recovered from the till and saprolitic bedrock have been better defined by follow-up scanning electron microscopy. Most of the gold grains are classified as "pristine" using the classification scheme of Dilabio (1990) (Figure 10). Modified and reshaped gold grains were recovered at significantly lower levels (Figure 11). The pristine grains have angular edges, smooth surfaces, long wiry bumps, thin flakes and grain molds. The most common shapes of the gold grains in this set are angular blocks, wedges and wires. There is no obvious clue in the shapes as to the origin of the gold, however, it doesn't seem to have been transported far, it is not placer, and it appears to have been in contact with angular host grains or gangue minerals. Gold grains recovered from sample number F88-11-07 displayed a rather wide spectrum of compositions. Eight gold grains were analyzed by microprobe analysis and yielded the following results: Au, 77% to 100%; Ag, 0.1% to 21.6%; and Hg, 0.0% to 0.8 %. Trace amounts of Sb, Cu, Fe and Te were detected as well (R. Dilabio,

Geological Survey of Canada, personal communication, 1990). The gold grain results from this borehole suggest that further investigations should be undertaken in the immediate vicinity.

Only a few surface samples in the northeastern corner of the report area contained anomalous numbers of gold grains. Samples NB-2 and NB-18 each contain ten gold grains and are worthy of follow-up work. Samples collected in the immediate vicinity of Off Lake contain gold grains in numbers which are consistently above background levels. A small gold occurrence on the southeast shore of Off Lake may indicate more detailed sampling is required to assess the gold potential of this area.

Most of the boreholes in the extreme western end of the report area contain in excess of 10 gold grains in at least one till sample. The gold grains are usually small, abraded, and recovered from till samples well above the till/bedrock interface. Pebbles recovered from these till samples are derived primarily from the Sabaskong Batholith, which is located 10 to 15 km to the northeast. This would suggest that the gold grains are probably distally derived and do not indicate a nearby mineralized source.

Only one till sample, from well off the greenstone belt within granitic terrain, contained an anomalous number of gold grains (AV-334). The grains recovered were probably long travelled as indicated by their small and abraded to irregular shapes.

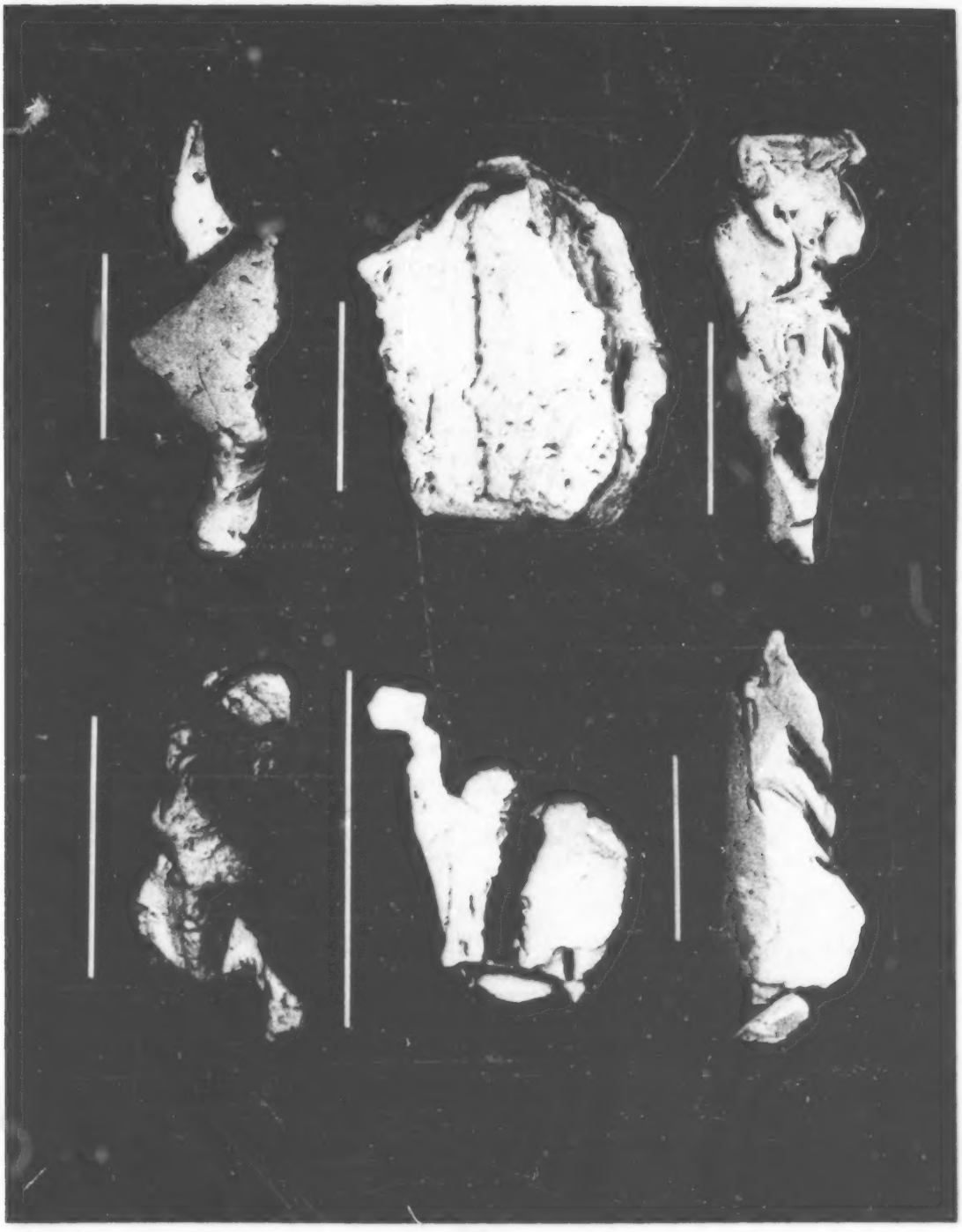


Figure 10. Selected scanning electron micrographs of pristine gold grains recovered from northeastern-derived till samples (borehole F88-11). Scale bar = 50 μm.

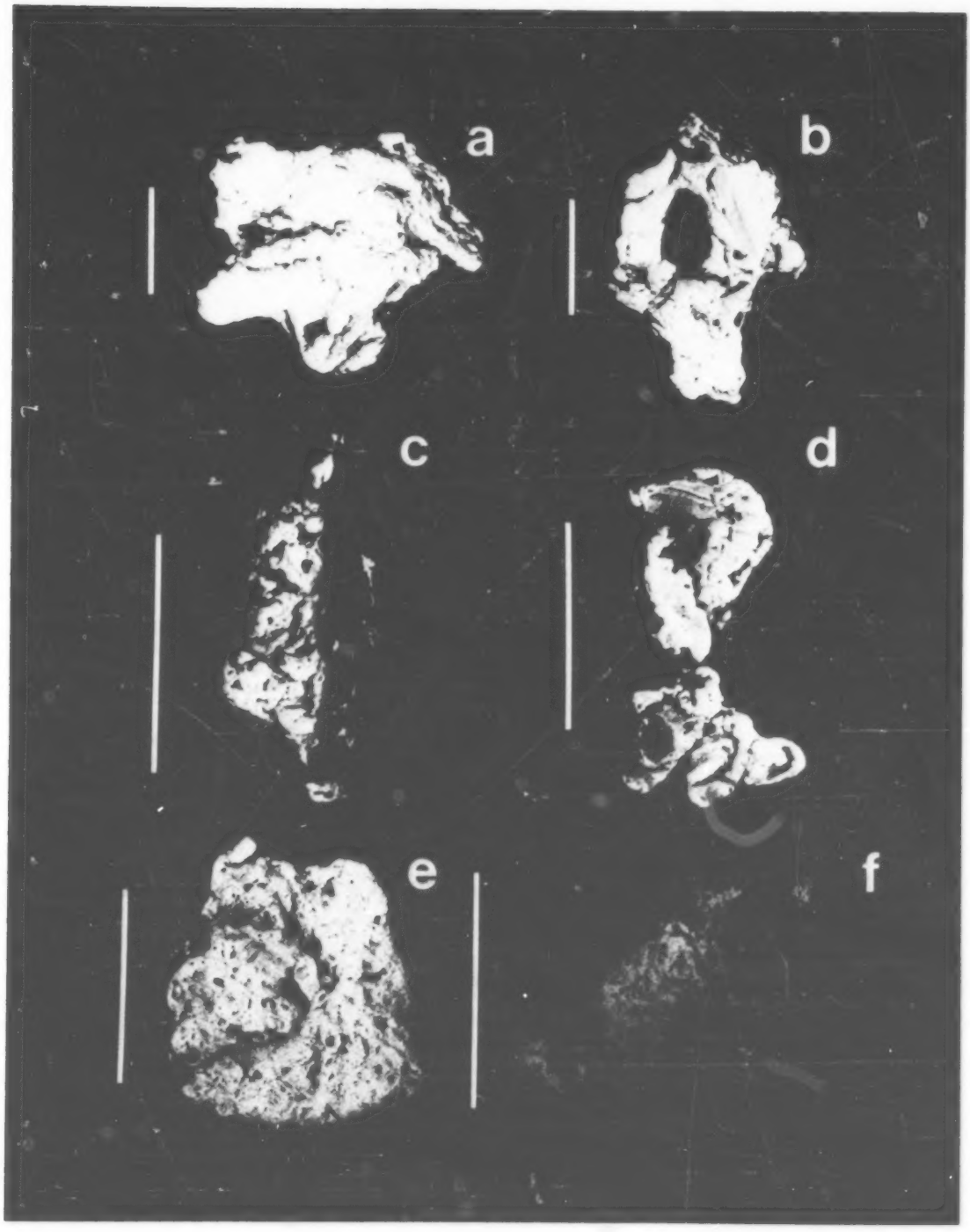


Figure 11. Selected scanning electron micrographs of modified (a-d) and reshaped (e-f) gold grains recovered from northeastern-derived till samples (borehole F88-11). Scale bar = 50 μm.

Copper Grains

Large numbers of native copper grains have been recovered from unweathered samples of northeastern derived till. The grains range from 25 μm to well over 1000 μm (1 mm) in diameter. Many of the grains show signs of mechanical transport and wear, hence ruling out the possibility of supergene enrichment within till during the post-glacial. Boreholes containing greater than 25 native copper grains per 7 to 10 kg of till include: F87-18, F87-22, F88-01, F88-11, F88-19, F88-20, F88-23, F88-24, F88-36, and F88-37. The lowest till sample of borehole F88-36 contained approximately 450 native copper grains, the greatest number recovered in the report area.

Aside from being found at sample sites exclusively within the supracrustal belt, their occurrence does not appear to have any direct association with a particular bedrock type (Figure 12).

The origin of the native copper is as yet unclear. Native copper has not been reported from supracrustal rocks within the report area or from adjacent areas to the northeast and east. However, much of the bedrock within the lowlands of the report area, (Zone 2a and 2b, Figure 5) is concealed by thick glacial cover and is deeply weathered; probably the result of intense, Cretaceous weathering. Secondary minerals, such as concretionary pyrite and botryoidal siderite, have been recovered from till samples which contain numerous clasts of saprolitic rock and are

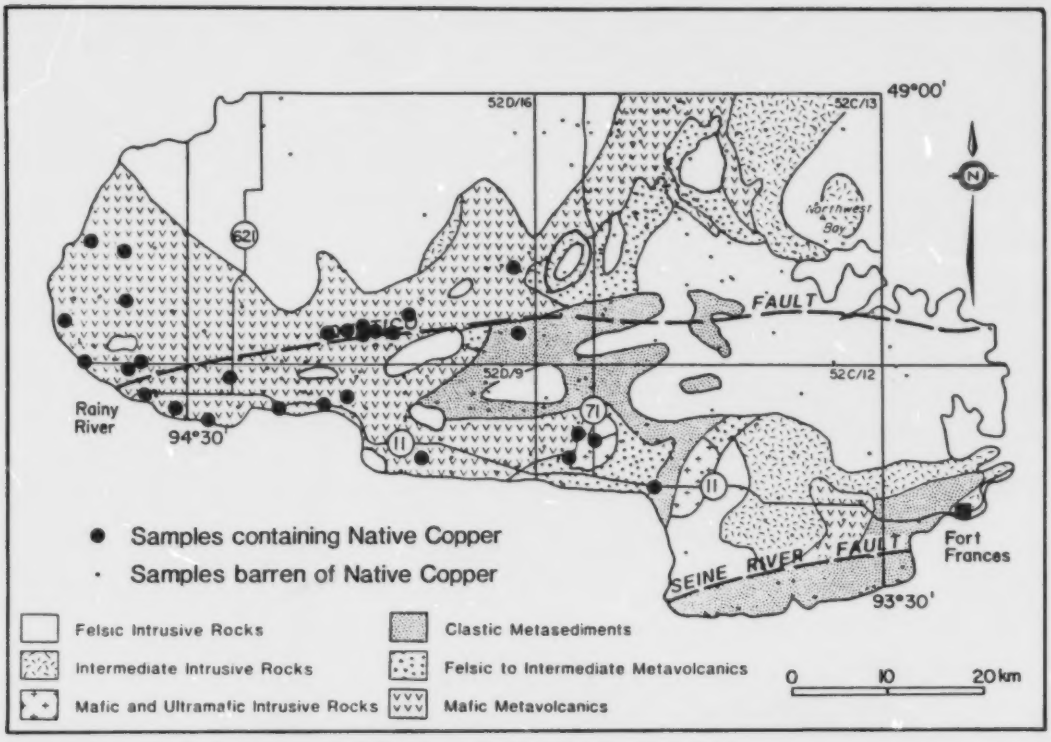


Figure 12. The distribution of native copper grains in northeastern derived till samples.

underlain by deeply weathered bedrock. The secondary minerals probably formed during the weathering process in response to groundwater movement under tropical conditions. Supergene enrichment of sulphide minerals and native elements during Cretaceous and Tertiary weathering has long been recognized as an important mechanism for the formation of mineral deposits and smaller concentrations of metallic minerals. The occurrence of native copper in till could therefore, be the result of mechanical dispersal of supergene enriched copper concentrated at or near the weathered bedrock surface. Up to 3 percent native copper

has been recovered from the heavy mineral concentrates of saprolitic bedrock in the Effie area of northern Minnesota (Martin et al. 1989). However, it has not been observed in any of the saprolite cores recovered from the report area. It should be stressed that the occurrence of native copper in saprolite does not confirm a supergene origin. It may occur as a primary mineral in bedrock prior to weathering. In fact, copper has been observed in quartz veins crosscutting unweathered tonalitic bedrock from a drillhole only a few kilometres southwest of Rainy River, Ontario (Assessment Files, Minnesota Department of Natural Resources). The copper occurs as thin stylolitic films and as wiry flakes associated with calcite within the quartz.

Scanning electron microscopy and microprobe analysis of selected copper grains from borehole F88-11 has provided additional information on the form, surface textures and composition of the native copper. Most grains consist of wiry masses and pieces of tiny dendrites with hackly or crystalline surfaces (Figure 13). The surfaces of all the copper grains are almost completely covered by fine euhedral crystals of cuprite, a copper oxide which forms quickly and commonly coats native copper. The small crystal clusters are virtually undamaged and probably formed on the copper grains post-glacially as an authigenic mineral. Compositionally, the copper grains show very little variability. They are essentially pure copper, with no significant minor elements (96.4% to 100.0% Cu).

Regardless of its origin, the occurrence of native copper in till is significant. There may still be a direct association with as yet undiscovered base metal prospects in the area. A thorough examination of pebbles and heavy minerals contained within till samples, as well as petrographic analysis of saprolites, is necessary to evaluate these occurrences. Close inspection of surface textures and shapes of all copper grains recovered may yield valuable information with regards to origin and transport history.

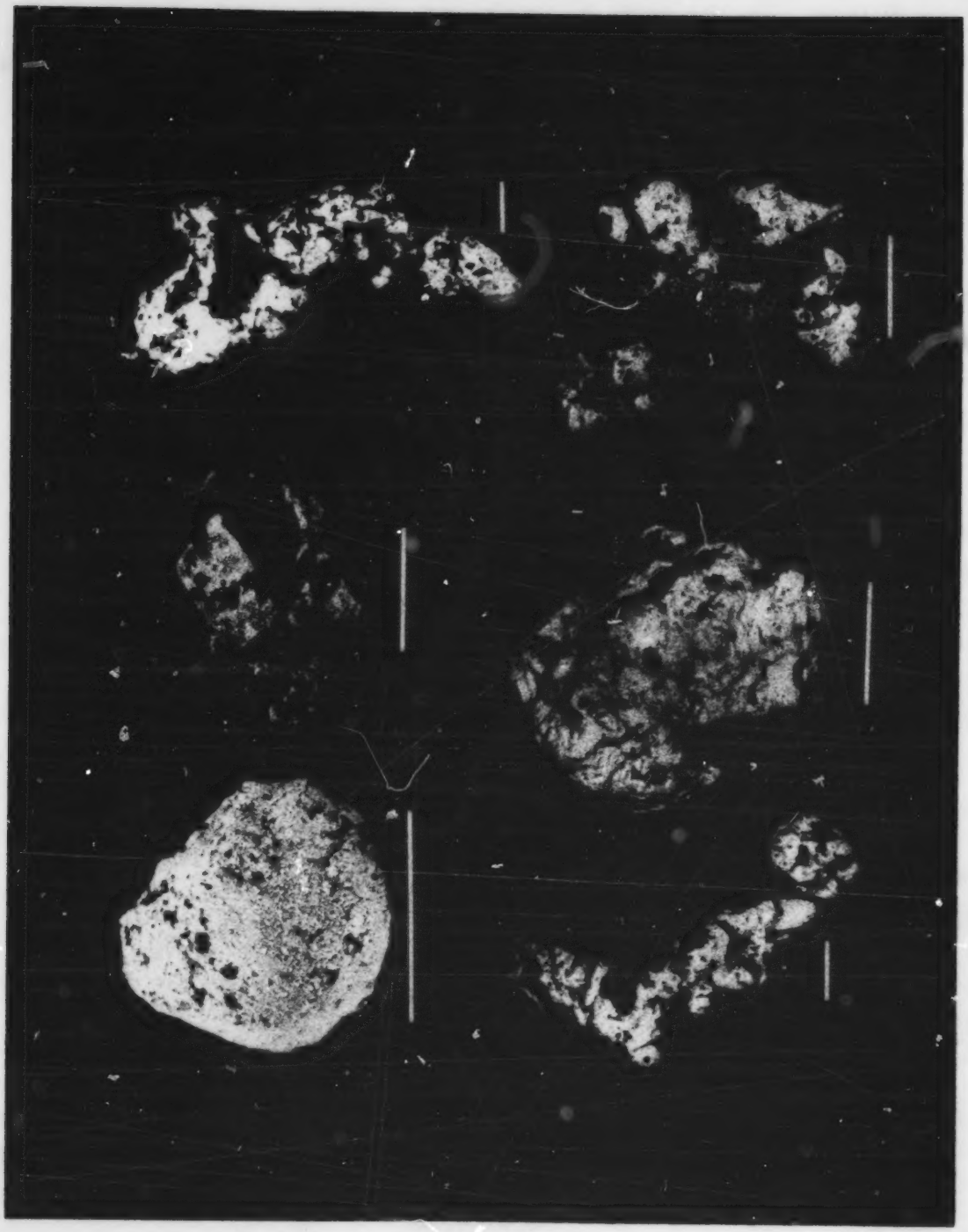


Figure 13. Scanning electron micrographs of selected copper grains recovered from northeastern-derived till samples (borehole F88-11). Scale bar = 200 μm.

Other Grains

Arsenopyrite and chalcopyrite were panned from several non-magnetic heavy mineral concentrates of northeastern derived till. Arsenic is an excellent pathfinder element for gold. When it occurs as a sulphide mineral in the heavy mineral concentrates, it should be considered significant. Several borehole samples contained arsenopyrite. These include: F88-07, F88-11, F88-13, F88-14, F88-18, and F88-35. In all cases, the same samples contained gold grains at levels well above background. The direct association between gold and arsenopyrite seems evident from the heavy mineral data.

Chalcopyrite grains were recovered from two boreholes in the report area. In borehole F88-11, five grains of chalcopyrite were recovered from a till sample collected at the bedrock interface. These grains were found in association with native copper and gold, arsenopyrite, and pyrite. More detailed work is required to assess the significance of this occurrence. In borehole F87-19, chalcopyrite grains were recovered from glaciofluvial sands of western origin. These grains are probably distally derived and should not be considered significant.

PEBBLE LITHOLOGY DATA

Computer generated contour maps of pebble rock types in northeastern derived till samples (Datasheet Series C) were prepared for six major lithologic groups utilizing SURFER, Version 4.10. At borehole locations, the lowest northeastern derived till sample was chosen to represent the pebble content. Surface samples (backhoe and hand-dug testpits) were collected from the bedrock/till interface in rock dominated terrains and up to a few metres from bedrock in areas of thicker drift. Pebbles measuring greater than 4.75 mm (Tyler +4 mesh sieve) were chosen for study.

Computer-generated contour maps were used to highlight important lithologic dispersal trends displayed by the pebble data. The non-uniform distribution of the data points has distorted some of the patterns. The percentages of intrusive and supracrustal rock types recovered from till samples generally coincide with trends depicted by the bedrock geology (see bedrock geology overlay, back pocket).

In the extreme western end of the report area, higher than expected values of felsic-intermediate intrusive rocks have been obtained from borehole samples of northeastern derived till. Values between 48% and 58% are not uncommon for this area which, is thought to be underlain by mafic volcanic rocks. The bedrock geology of this area is not well exposed and may be more complex than originally depicted. Sonic drillholes north and west of Rainy River have intersected tonalitic rock types in areas previously

interpreted as mafic terrain (Johns 1988). The anomalous felsic-intermediate intrusive component of till in this area may also be explained in terms of till genesis (i.e., passive meltout of englacial debris). The felsic-intermediate intrusives may be derived from the Sabaskong Batholith which is located 10 to 15 km to the northeast.

Felsic-intermediate extrusive pebbles were recovered at relatively high concentrations (greater than 34%) from borehole samples in Richardson, Blue, and Nelles townships. Lower concentrations (24% to 34%) are located along the Rainy River between Pinewood and Emo and in upland areas around Off Lake and Burditt Lake. All of the high values can be explained in terms of local bedrock geology and normal glacial dispersal patterns.

Mafic intrusive pebbles are most abundant in till samples collected around the Dobie Intrusion, which is located at the junction of Highways #71 and #11. Above background concentrations of mafic intrusive pebbles (i.e., greater than 4%) were also recovered from till samples in the vicinity of Off Lake and Burditt Lake. These pebbles are probably derived from sills of gabbro, norite, and diorite which outcrop to the northeast, just outside of the report area.

Mafic extrusive pebbles usually occur at concentrations of 10% to 20% in granitic terrains and climb to values well above 30% or 40% within the greenstone belt. There appears to be a strong correlation between areas underlain by mafic

volcanic rocks and till samples which contain high concentrations of these rock types. A northeast trending belt of tightly spaced contours in the central portion of the report area defines an area underlain by mafic volcanic rocks. Samples collected from this area contain high concentrations of mafic volcanic clasts derived, not only from the immediate vicinity, but from a 50 km wide zone of mafic rocks which outcrop in the "up-ice" direction to the northeast.

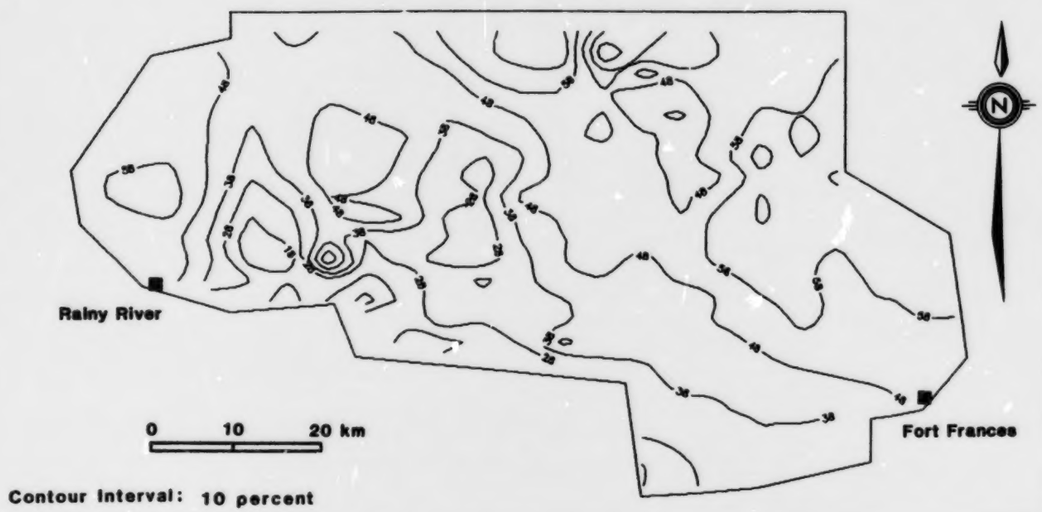
Metasedimentary rocks consist primarily of metagreywackes, reworked tuffs, argillites, and banded iron formation. They occur in a fairly restricted zone south of the Quetico Fault, between Rainy River and Emo, as well as south of the Seine River Fault within the Quetico Subprovince. They are virtually absent from till samples collected in the northeastern and northwestern corners of the report area. Once again, there appears to be a strong correlation between the occurrence of metasedimentary pebbles in till and the known distribution of metasedimentary rocks.

Schists and gneisses are sporadically distributed throughout the study area. They occur in association with highly metamorphosed granitics and clastic metasediments or tectonized host rocks along fault zones. Boreholes located 1 to 2 km east of Pinewood and along Highway 621, north of Sleeman are probably situated in close proximity to the Quetico Fault and its associated splays. Talcose and

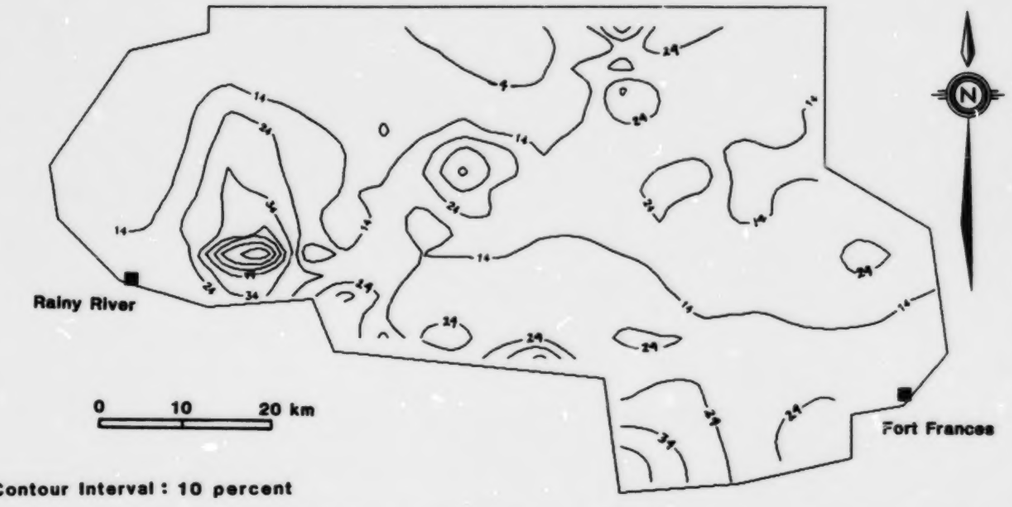
chloritic schists are abundant in till samples collected from these boreholes. Slightly elevated concentrations of schists and gneisses also occur within the area of clastic metasediments northwest of Emo.

CONTOURED PERCENTAGE OF PEBBLE LITHOLOGIES IN NORTHEASTERN TILL SAMPLES (+4.75 mm)

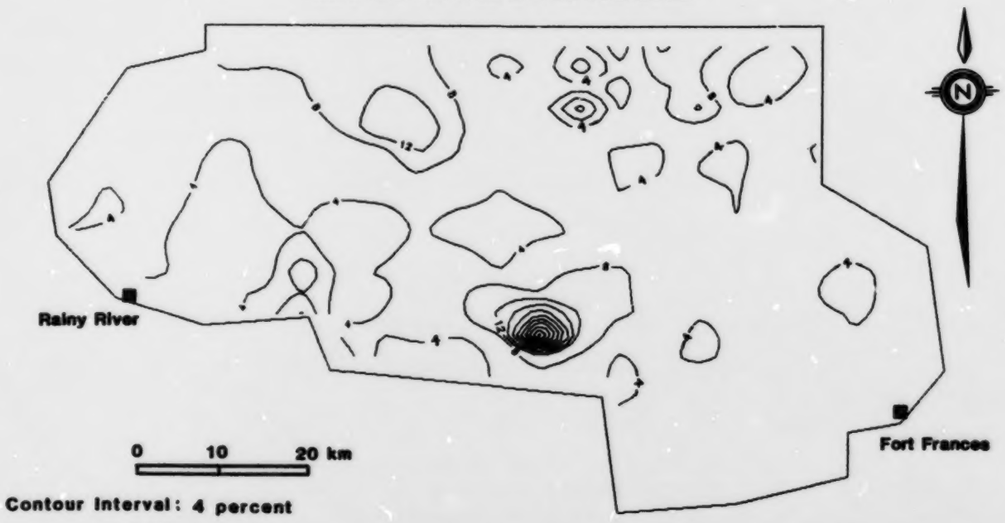
FELSIC–INTERMEDIATE INTRUSIVE ROCKS



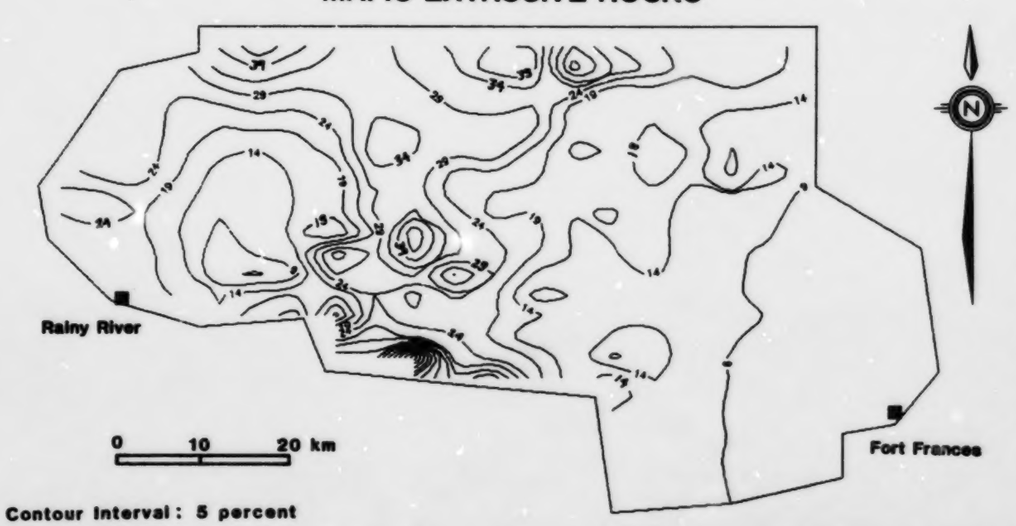
FELSIC–INTERMEDIATE EXTRUSIVE ROCKS



MAFIC INTRUSIVE ROCKS

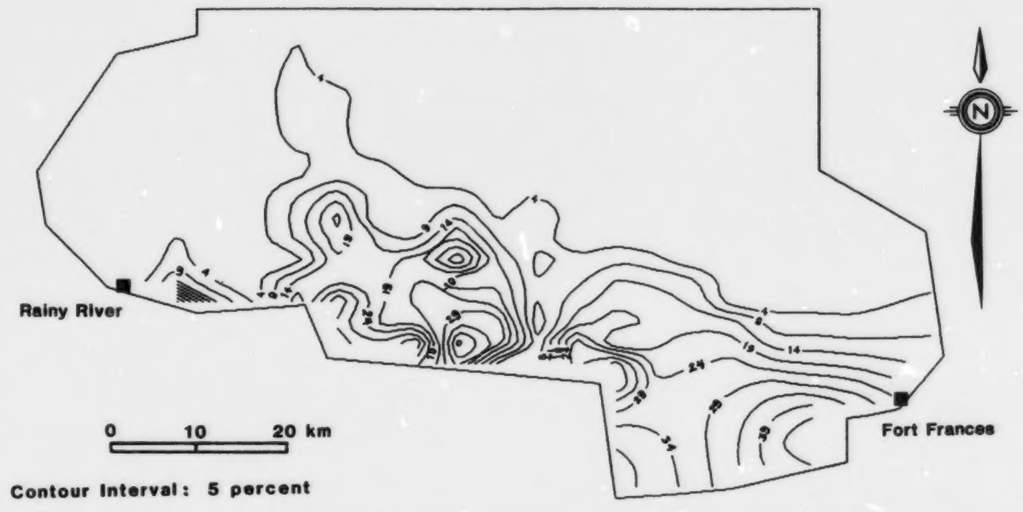


MAFIC EXTRUSIVE ROCKS



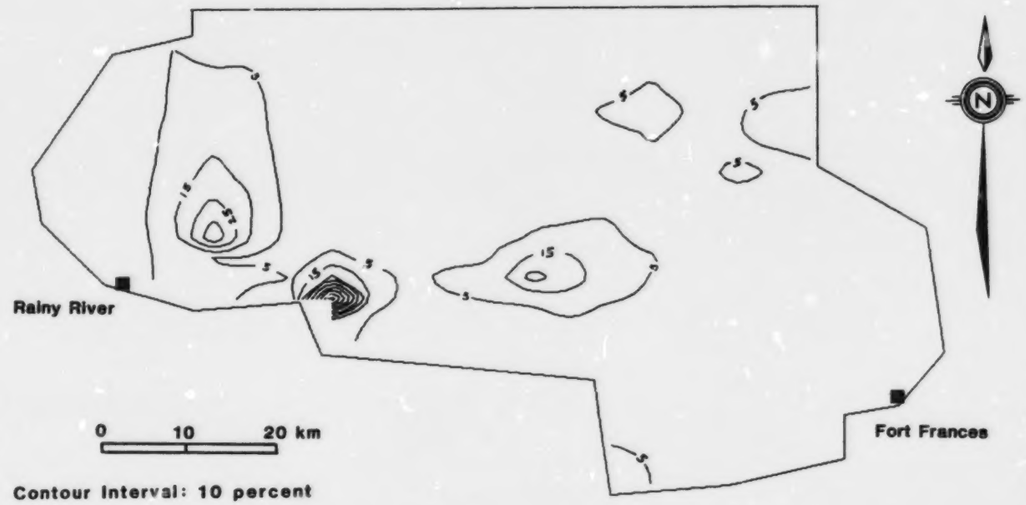
CONTOURED PERCENTAGE OF PEBBLE LITHOLOGIES IN NORTHEASTERN TILL SAMPLES (+4.75 mm)

METASEDIMENTARY ROCKS



Contour Interval: 5 percent

SCHISTS AND GNEISSES



Contour Interval: 10 percent

GEOCHEMICAL TRENDS AND ANOMALIES

Summary Statistics

Simple statistics were calculated for the three geochemical datasets of northeastern and western derived drift (Tables 8 to 10). Borehole and surface samples were treated as separate populations. Values listed as below detection limit were reassigned values, at half the detection limit for statistical calculations. The 95th percentiles were calculated using log normalized data since most of the populations display positively skewed distributions.

There are significant geochemical differences between populations of Labradorean (northeastern) and Keewatin (western) derived drift for both surface and borehole samples.

In the non-magnetic heavy mineral fraction (Table 8), important geochemical differences occur between borehole samples of Keewatin (western) and Labradorean (northeastern) derived till. Labradorean till displays higher Au, As, Cu and Co values and lower Sb, Mo, Pb, Zn, Cr and Ba values with respect to Keewatin till.

Surface samples of the two till sheets display marked differences in Au, As, Sb, Pb, Zn, Cr, Co and Ba non-magnetic heavy mineral concentrate geochemistry. Northeastern derived till samples yield higher Au and Co values.

Borehole samples of northeastern derived till are enriched in As, Sb, Cu, Zn, Ni, Co and Ba with respect to surface samples of the same till sheet.

Table 8. Summary statistics for the non-magnetic heavy mineral fraction geochemistry.

BOREHOLE SAMPLES: NE TILL	Au1 (ppb)	Au2 (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	179	178	179	179	179	174	179	179	179	179	179	179	179	34	34
MEAN	260	350	123	1.5	3	0.4	675.8	23	90.8	78	327	100	105	14	13
MAX.	6370	20000	2470	14.0	29	4.3	20000.0	84	1016.0	518	1850	326	1050	108	93
MIN.	3	1	3	0.1	1	0.1	28.3	8	9.0	12	24	6	5	3	1
STD.DEV.	555	1524	246	1.7	3	0.7	1996.2	13	119.1	61	155	65	141	20	21
95th %'ILE	721	973	428	3.4	5	1.4	2582.5	52	275.0	180	484	214	466	47	93

BOREHOLE SAMPLES: NE SAND	Au1 (ppb)	Au2 (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	28	28	28	28	28	28	28	28	28	28	28	28	28	4	4
MEAN	148	216	95	1.4	3	0.2	158.6	23	65.1	50	340	71	122	4	5
MAX.	546	1100	681	4.0	11	0.9	1267.7	71	157.0	116	640	211	1030	7	8
MIN.	9	2	1	0.1	1	0.1	8.9	8	15.2	5	79	6	15	3	3
STD.DEV.	129	253	147	1.2	2	0.2	237.5	13	44.4	35	116	57	237	2	2

BOREHOLE SAMPLES: W TILL	Au1 (ppb)	Au2 (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	83	0	83	83	81	0	81	81	81	81	81	81	81	0	0
MEAN	114		87	3.0	7	NA	116.6	58	194.5	78	681	57	2386		
MAX.	2110		381	7.8	23	NA	400.7	98	941.0	200	3250	127	8800		
MIN.	3		8	0.5	1	NA	16.8	14	26.0	10	254	4	26		
STD.DEV.	332		48	1.2	4	NA	47.5	15	138.5	33	319	18	1760		
95th %'ILE	420		140	4.9	14	NA	176.6	80	428.0	133	838	84	6690		

SURFACE SAMPLES: NE TILL	Au1 (ppb)	Au2 (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	163	64	163	163	163	161	163	163	163	163	163	163	163	0	0
MEAN	221	514	9	0.9	4	0.1	33.2	18	44.7	16	481	21	27		
MAX.	2330	6980	71	3.6	13	0.8	360.0	87	537.0	104	2590	317	98		
MIN.	3	1	1	0.1	1	0.1	5.5	6	11.5	2	126	1	3		
STD.DEV.	318	1005	11	0.7	2	0.1	44.0	11	48.5	13	313	37	16		
95th %'ILE	819	1422	30	2.5	7	0.3	90.1	29	97.5	37	900	62	56		

SURFACE SAMPLES: W TILL	Au1 (ppb)	Au2 (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	30	0	30	30	28	0	28	28	28	28	28	28	28	0	0
MEAN	123		15	1.8	6	NA	30.6	36	70.5	20	700	13	1331		
MAX.	1350		83	3.1	20	NA	111.9	76	233.0	89	911	47	6690		
MIN.	5		3	0.5	2	NA	7.2	22	17.8	5	264	5	39		
STD.DEV.	283		18	0.5	3	NA	27.5	12	60.0	19	133	11	1735		
95th %'ILE	851		57	2.6	10	NA	83.7	66	200.0	60	893	40	6640		

Au1 : INAA Au2 : FA/DCP

Borehole samples of western derived till are enriched in As, Sb, Cu, Zn, Ni, Co and Ba with respect to surface samples of that till unit.

Statistical data for the magnetic heavy mineral geochemical dataset is presented in Table 9. Only minor differences occur between borehole samples of northeastern derived till versus northeastern derived sand. Those

Table 9. Summary statistics for the magnetic heavy mineral fraction geochemistry.

BOREHOLE SAMPLES: NE TILL	Au1 (ppb)	Au2 (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	35	35	35	35	35	35	35	35	35	35	35	35	35	35
MEAN	38	81	10	0.9	37	72.3	14	54.0	96	2692	56	105	24	44
MAXIMUM	1310	2788	56	8.8	996	420.0	61	85.1	479	6180	201	2110	208	363
MINIMUM	3	2	2	0.1	1	26.9	9	20.7	26	567	18	11	4	1
STD.DEV.	206	439	12	1.4	156	69.8	10	12.4	75	1158	39	327	33	82

BOREHOLE SAMPLES: NE SAND	Au1 (ppb)	Au2 (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	4	4	4	4	4	4	4	4	4	4	4	4	4	4
MEAN	3	4	11	0.8	7	58.7	23	56.2	79	2290	43	35	14	2
MAXIMUM	5	11	24	1.2	21	89.8	53	65.5	112	3520	60	50	32	3
MINIMUM	3	2	3	0.2	2	27.7	10	40.7	48	1490	31	22	5	1
STD.DEV.	1	4	8	0.4	8	23.5	18	9.5	28	756	12	11	11	1

elements which display the greatest differences include: Au, Mo, Ba and Pd.

Geochemical differences between the western and northeastern derived till units are not as pronounced in the silt and clay fraction geochemistry (Table 10). Slight differences occur between borehole samples of northeastern versus western derived till for Au, Cu, Pb, Zn, Ni and Cr. Northeastern derived till is enriched in these elements, with the exception of Pb.

In the surface environment, the differences are even more subtle. Northeastern derived till is enriched in Au, Cu, and Cr with respect to western derived till.

Slight differences occur between surface and borehole samples of both northeastern and western derived till. Surface samples of northeastern derived till are enriched in Cu, Zn and Cr and slightly depleted in Ni with respect to borehole samples of that till. Similarly, surface samples of western derived till are enriched in As, Cu, and Ni with

respect to unweathered borehole samples of the same till unit (Table 10).

Table 10. Summary statistics for the silt and clay fraction geochemistry.

BOREHOLE SAMPLES: NE TILL

	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	178	178	178	178	178	178	178	178	178	178	178	178	33	33
MEAN	6	2.2	0.2	1	0.1	48.2	5	36.2	29	129	10	428	4	3
MAXIMUM	68	80.0	0.5	11	2.1	1880.0	13	229.6	191	854	52	778	21	15
MINIMUM	1	0.5	0.1	1	0.1	5.8	1	10.8	6	24	2	1	3	1
STD DEV	9	6.0	0.1	1	0.2	162.0	2	23.8	25	117	6	110	4	4
95th %'ILE	24	4.0	0.3	3	0.3	129.4	9	71.3	80	386	24	624	14	15

BOREHOLE SAMPLES: W TILL

	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	227	227	227	227	227	227	227	227	227	227	227	227	0	0
MEAN	1	2.9	0.3	3	0.1	17.4	11	47.1	18	58	8	418		
MAXIMUM	21	9.0	0.7	7	0.4	25.7	29	83.3	32	128	17	878		
MINIMUM	1	0.5	0.1	1	0.1	9.8	3	24.7	10	16	3	288		
STD DEV	2	1.3	0.1	1	0.0	3.5	3	10.5	4	20	2	76		
95th %'ILE	5	5.5	0.4	4	0.2	24.1	15	63.7	26	90	10	10		

SURFACE SAMPLES: NE TILL

	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	166	166	166	166	166	166	166	166	166	166	166	166	0	0
MEAN	7	3.0	0.2	1	0.1	56.8	5	45.6	24	133	11	456		
MAXIMUM	64	15.0	0.5	38	1.4	939.7	18	451.0	123	430	39	828		
MINIMUM	1	0.5	0.1	1	0.1	7.9	1	12.1	9	0	3	0		
STD DEV	9	2.0	0.1	3	0.2	100.6	2	37.1	14	53	5	125		
95th %'ILE	21	6.5	0.4	1	0.2	122.9	9	78.5	44	220	18	689		

SURFACE SAMPLES: W TILL

	Au (ppb)	As (ppm)	Sb (ppm)	Mo (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ni (ppm)	Cr (ppm)	Co (ppm)	Ba (ppm)	Pt (ppb)	Pd (ppb)
TOTAL	29	29	29	29	29	29	29	29	29	29	29	29	0	0
MEAN	2	4.4	0.3	2	0.1	20.5	9	50.6	24	68	7	378		
MAXIMUM	6	8.0	0.4	3	0.3	24.8	13	63.7	32	119	8	619		
MINIMUM	1	1.5	0.2	1	0.1	15.9	3	27.0	16	45	5	319		
STD DEV	1	1.3	0.1	0	0.0	2.1	2	8.1	4	14	1	58		
95th %'ILE	4	7.0	0.3	3	0.1	24.3	12	61.4	31	97	8	470		

Geochemical Frequency Histograms

Geochemical frequency histograms were constructed for the silt and clay and non-magnetic heavy mineral concentrate fractions of both Labradorean (northeastern) and Keewatin (western) derived samples (Datasheet Series D). Surface and borehole samples were treated as separate populations. The histograms are designed to provide a visual representation of the range of data, modes, skewness and possible thresholds separating background from anomalous values.

With regard to silt and clay fraction geochemistry, surface and borehole samples of Keewatin (western) derived till display normal distributions for all elements except Au, As and Ag. Concentrations of these elements fall at or close to their respective detection limits resulting in positively skewed populations. The normal distributions are best explained in terms of sample homogeneity resulting from sampling distance above the bedrock surface, composition of sediments directly underlying the till and long distance transport and comminution of Phanerozoic rocks from south-central Manitoba.

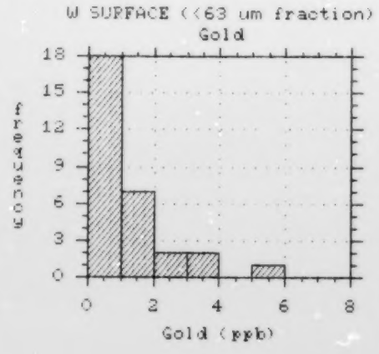
Surface and borehole samples of Labradorean (northeastern) derived till have yielded distributions for silt and clay fraction geochemistry that are quite unlike those described above for Keewatin derived till. The sample populations display positively skewed distributions for all elements except Pb and Ba. These elements display slightly skewed normal distributions.

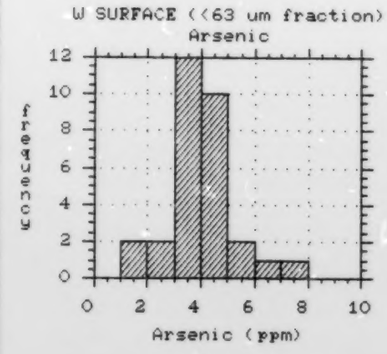
The pattern of non-magnetic heavy mineral geochemistry for Keewatin (western) derived tills is slightly different from that displayed by the silt and clay fraction. Many of the elements, including Au, As, Cu, Zn, Ni, Co and Ba for surface samples and Au, As, Mo, Zn and Ba for borehole samples display positively skewed populations.

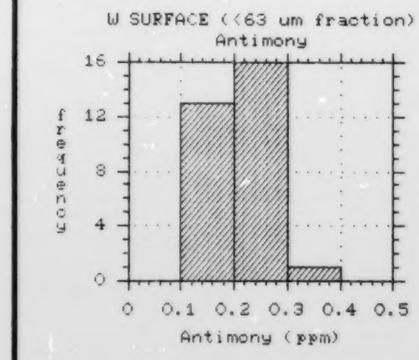
As for surface and borehole samples of Labradorean (northeastern) derived drift, the non-magnetic heavy mineral geochemistry consistently displays positively skewed populations for all elements except Pb and Cr.

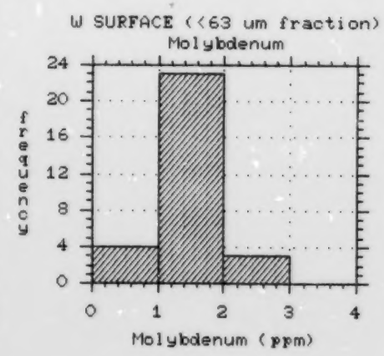
Positively skewed distributions are desireable from an exploration geochemistry viewpoint. It enables the rapid recognition of threshold anomalies and significant geochemical responses. For this reason, the older, Labradorean derived till sheet is recommended as the preferred sampling medium for a drift prospecting program.

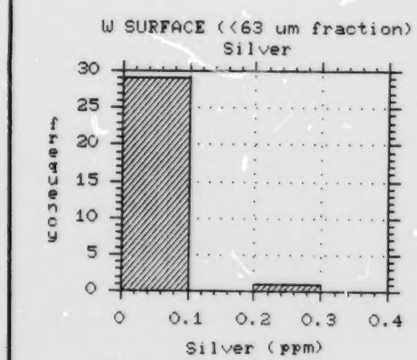
Surface Keewatin Till Geochemistry: Silt and Clay Fraction

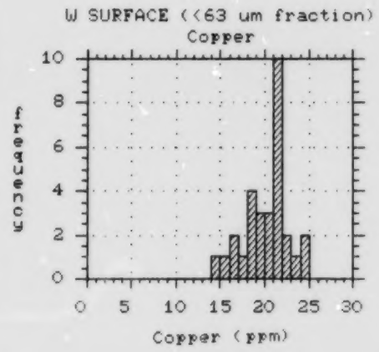


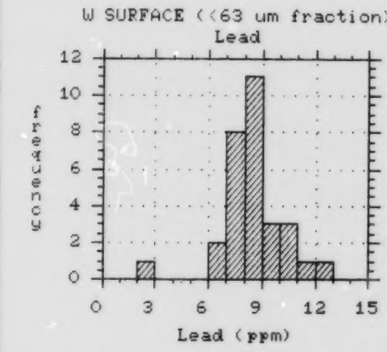


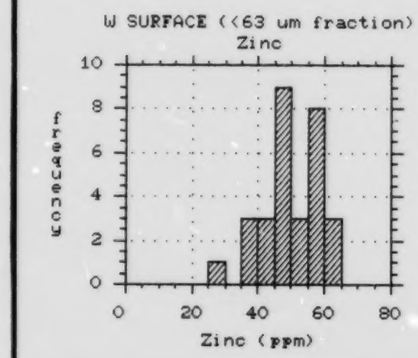


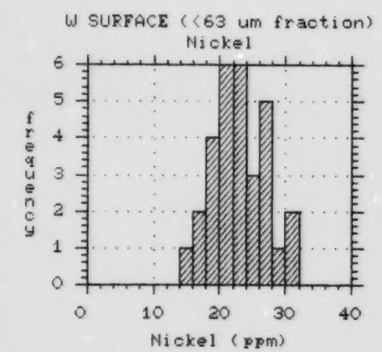


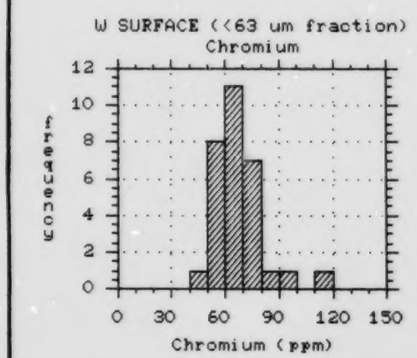


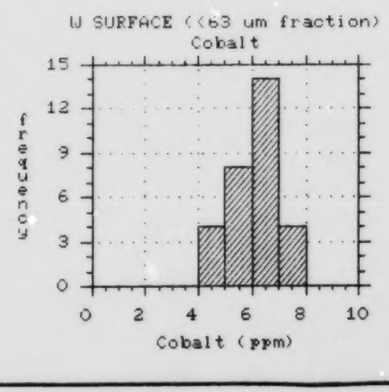


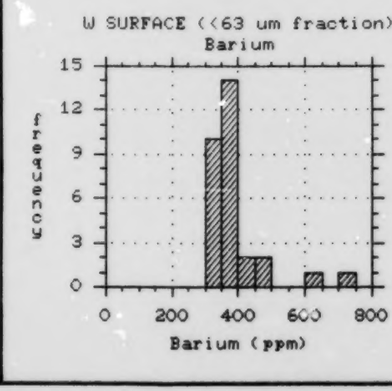




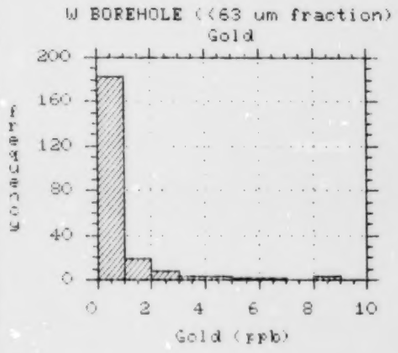


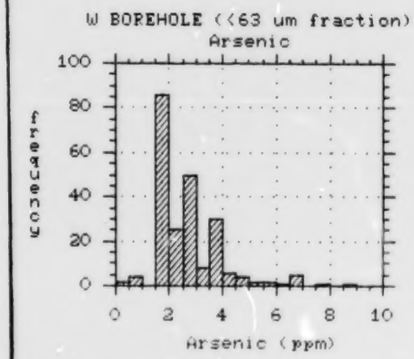


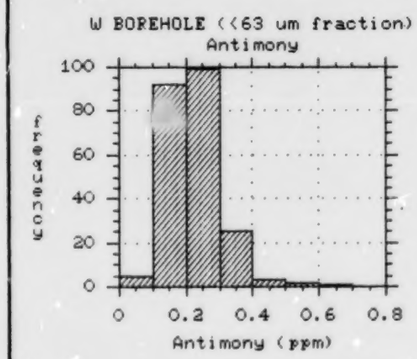


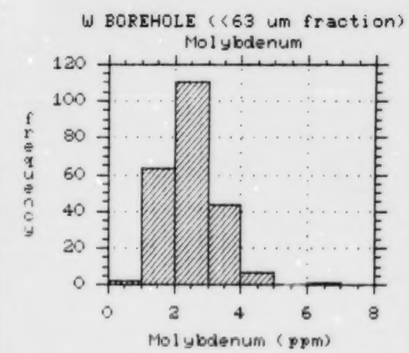


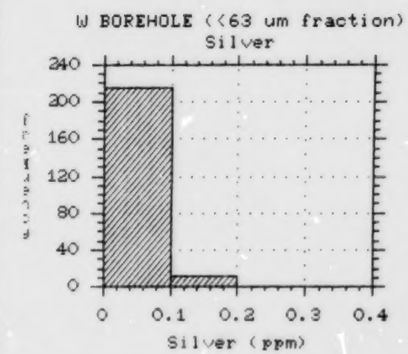
Borehole Keewatin Till Geochemistry: Silt and Clay Fraction

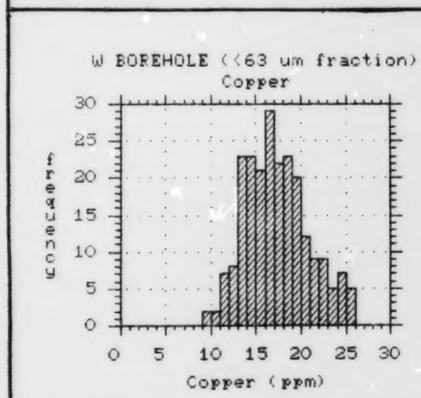


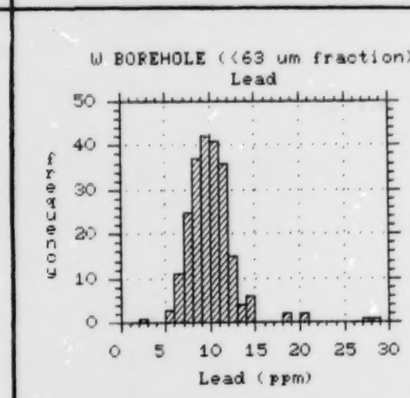


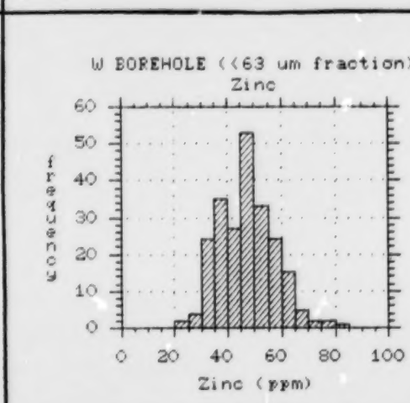


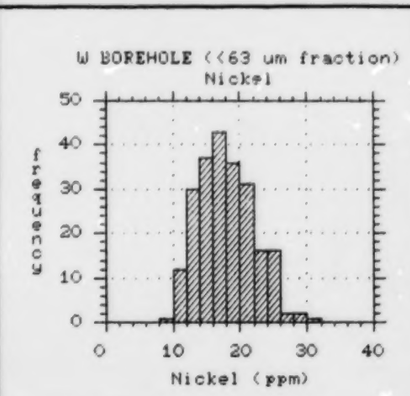


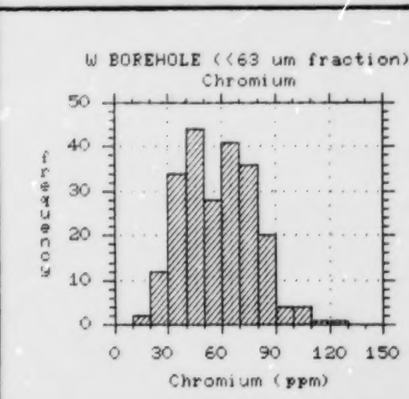


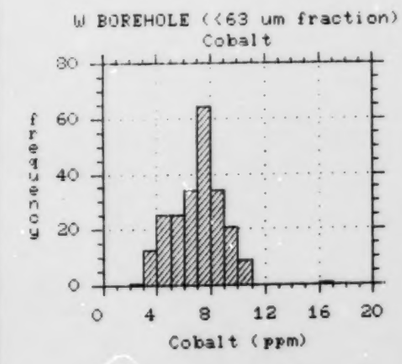


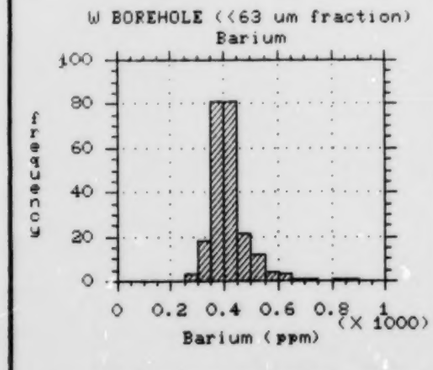




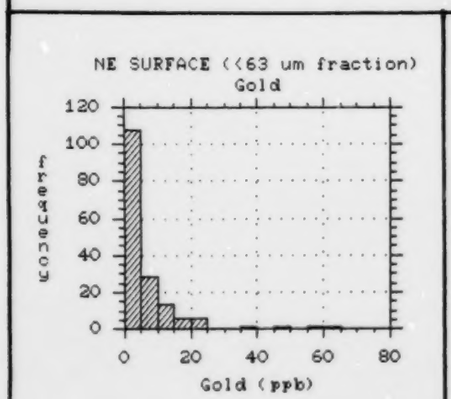


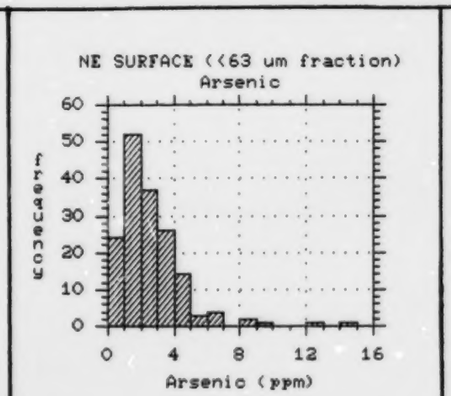


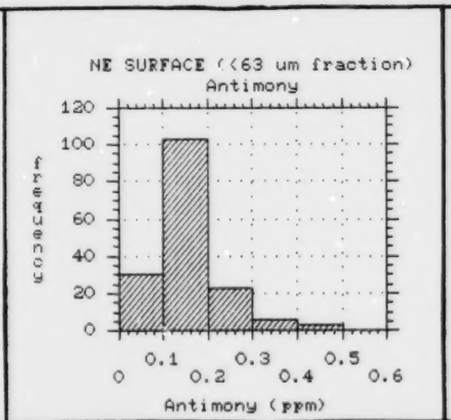


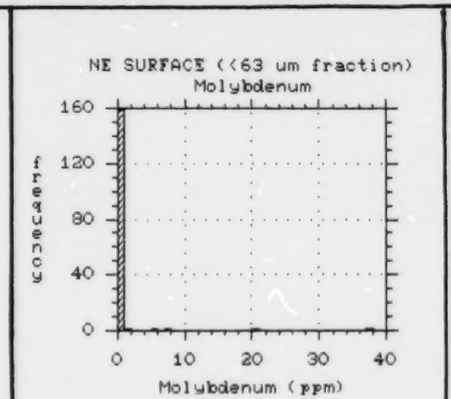


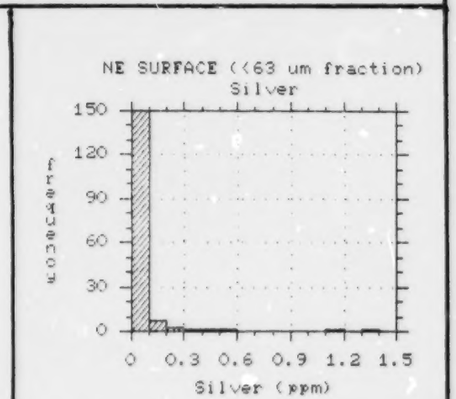
Surface Labradorean Till Geochemistry: Silt and Clay Fraction

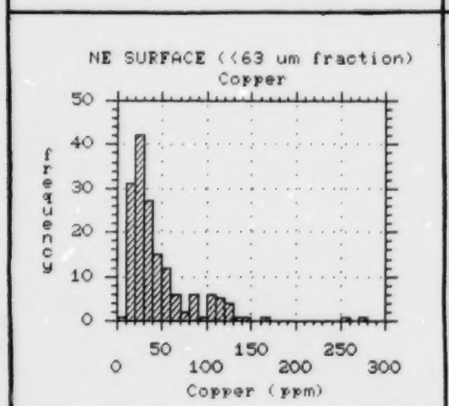


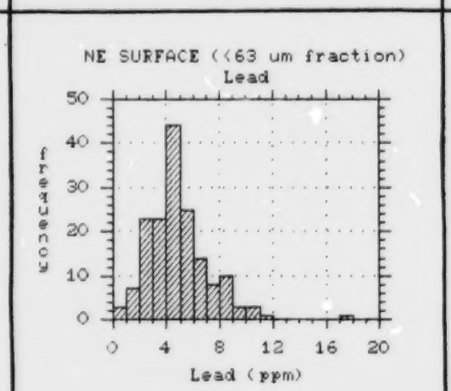


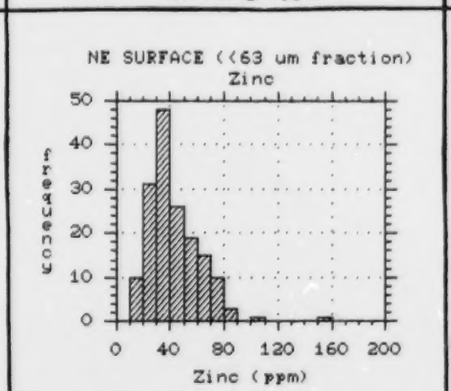


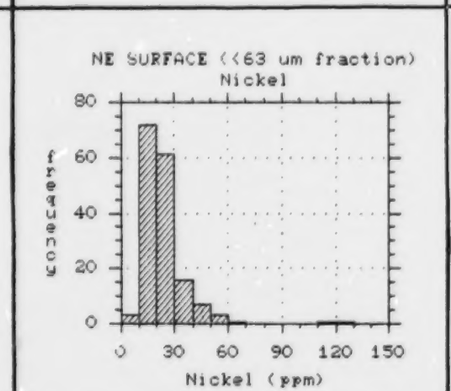


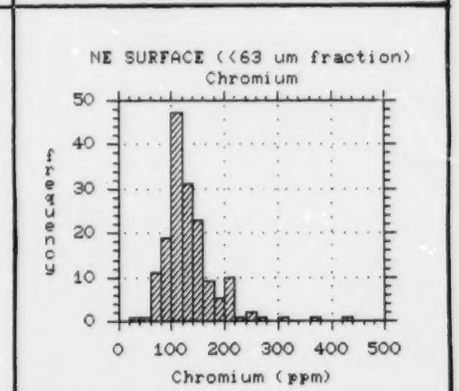


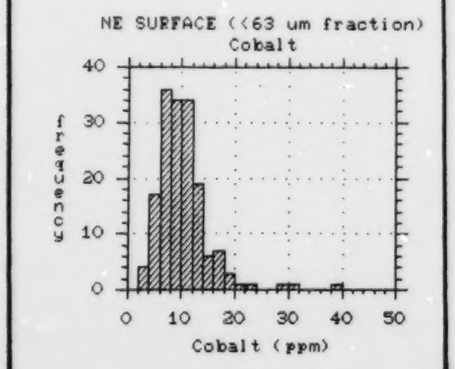


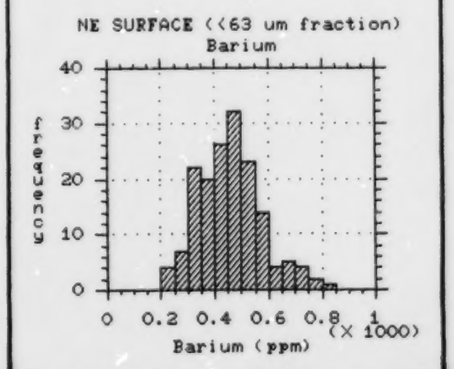




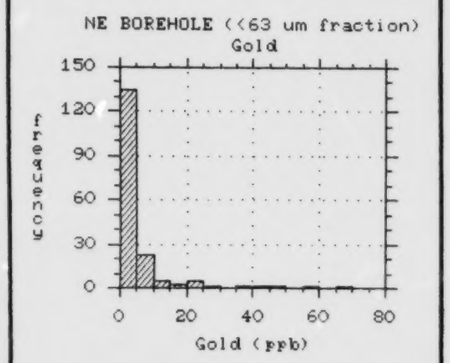


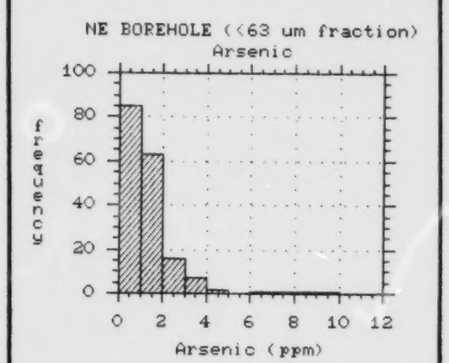


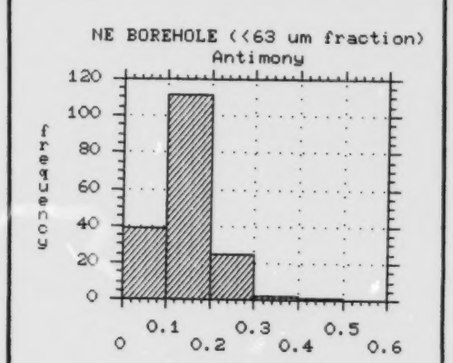


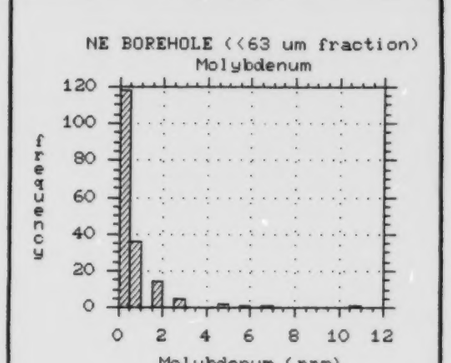


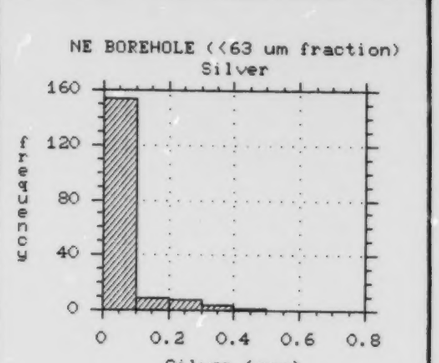
Borehole Labradorean Till Geochemistry: Silt and Clay Fraction

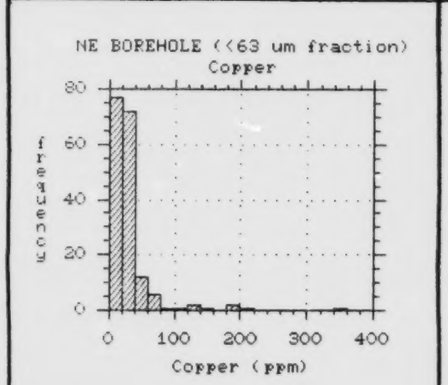


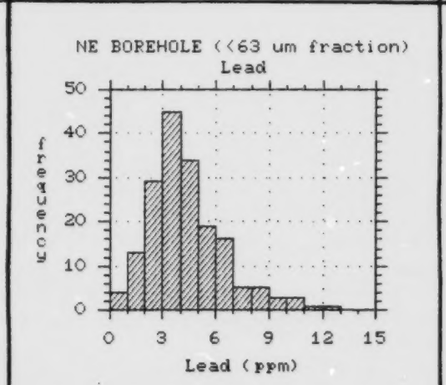


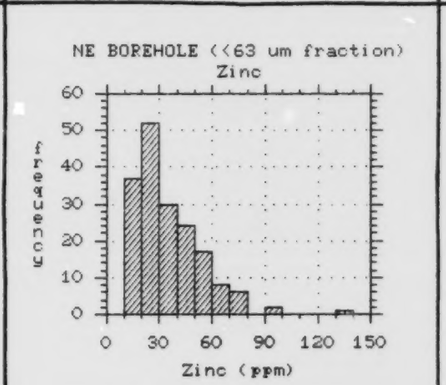


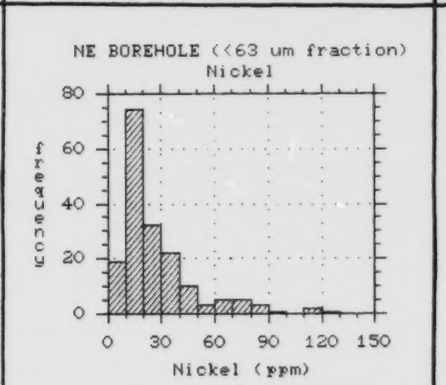


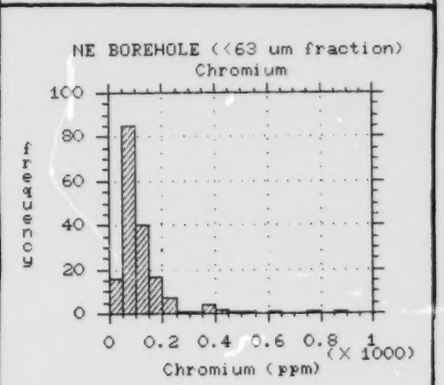


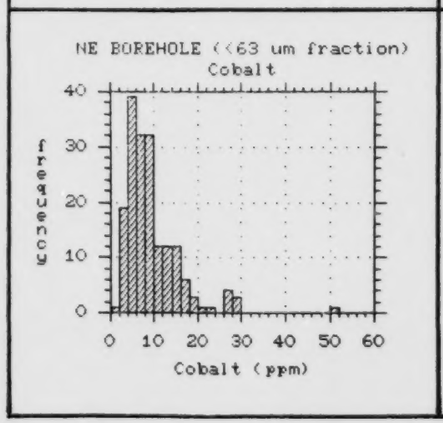


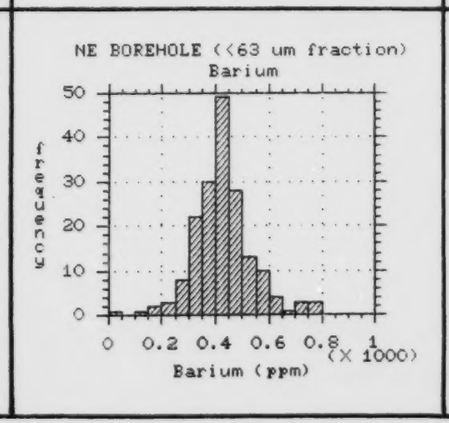


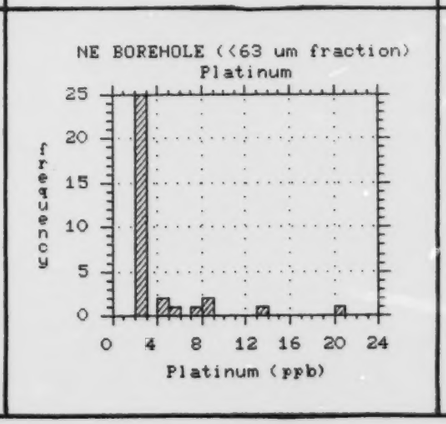


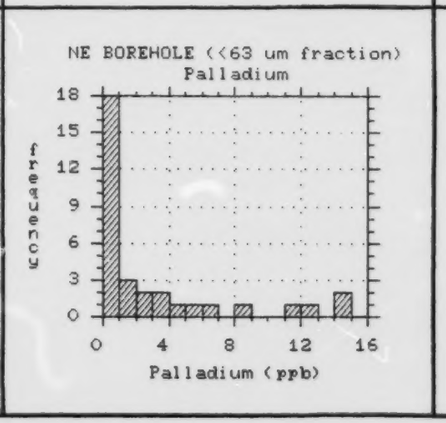




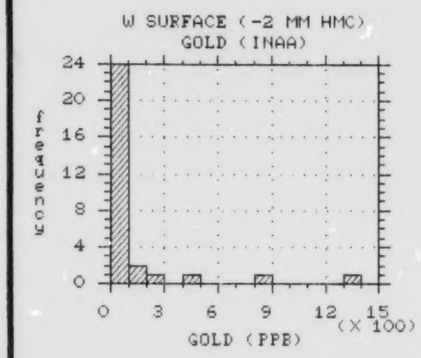


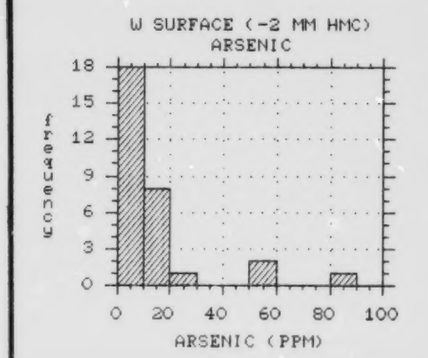


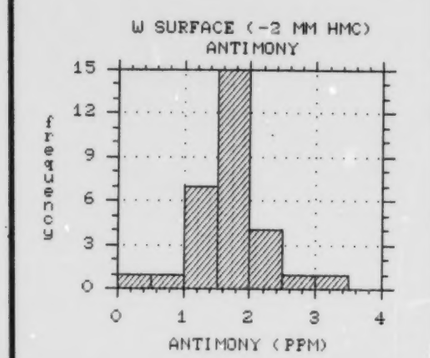


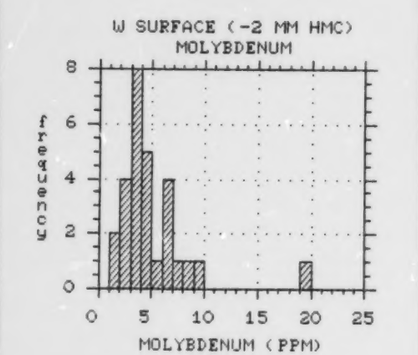


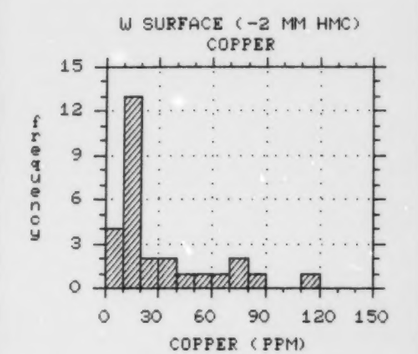
Surface Keewatin Till Geochemistry: -2 mm Non-magnetic HMC

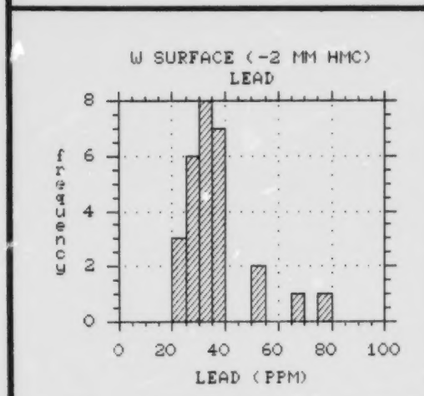


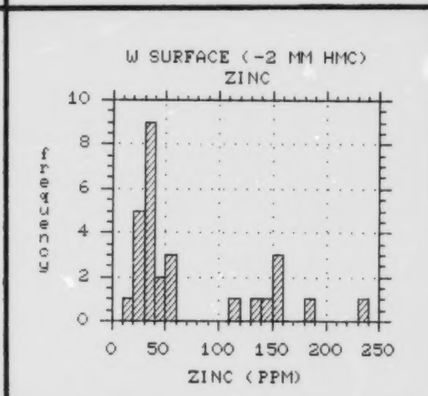


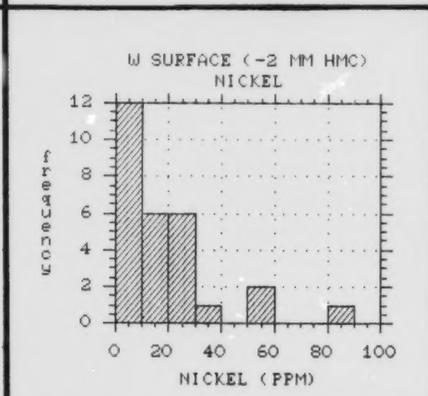


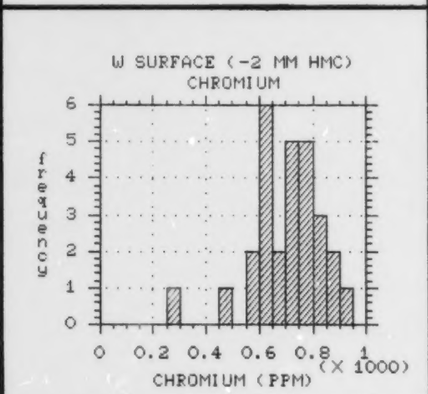


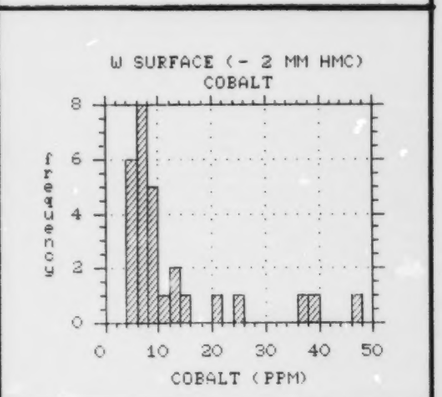


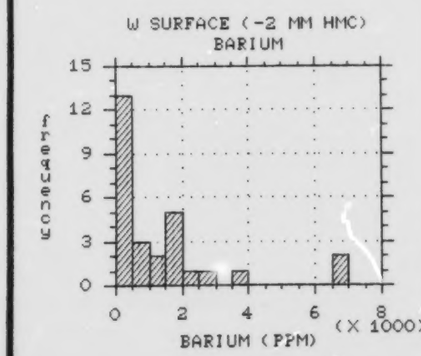




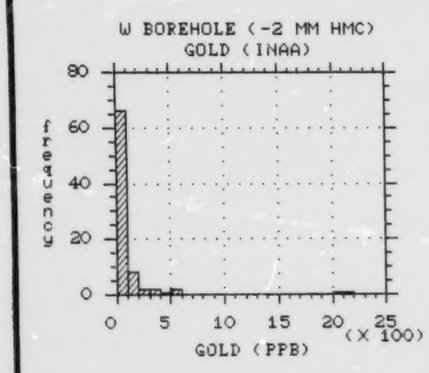


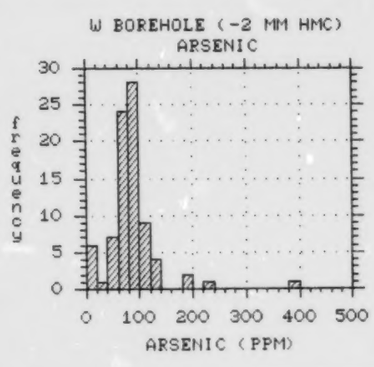


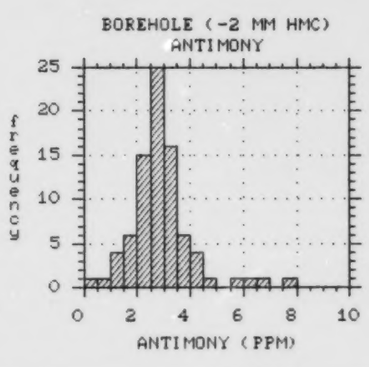


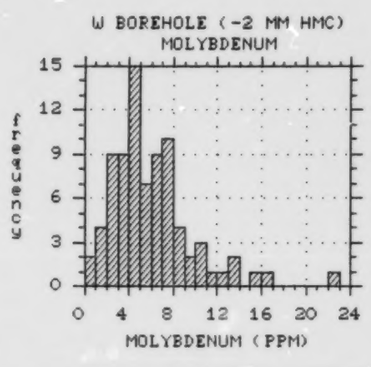


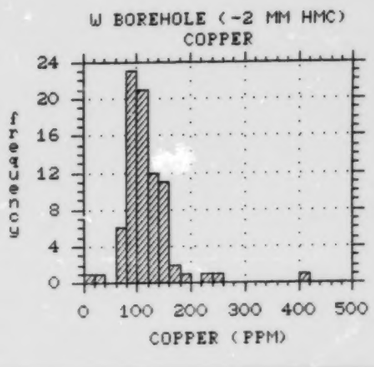
Borehole Keewatin Till Geochemistry: -2 mm Non-magnetic HMC

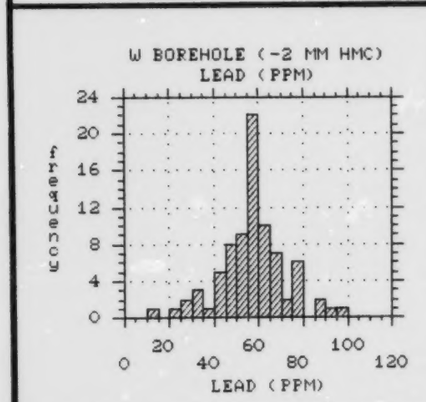


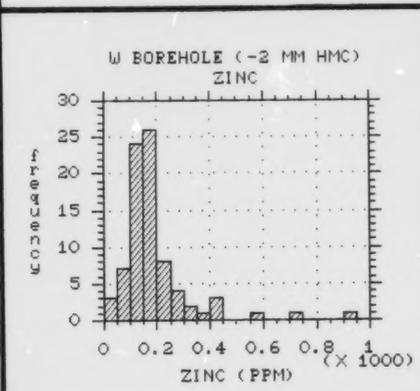


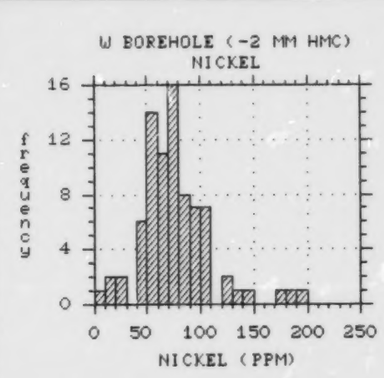


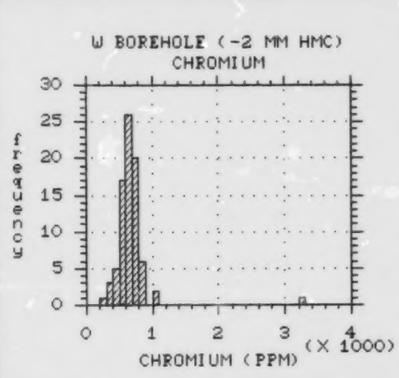


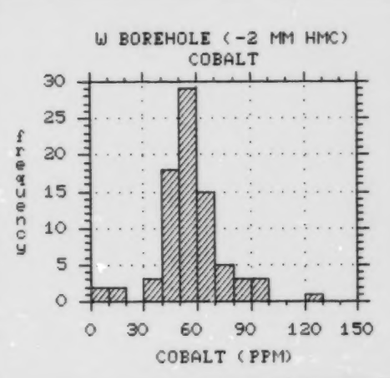


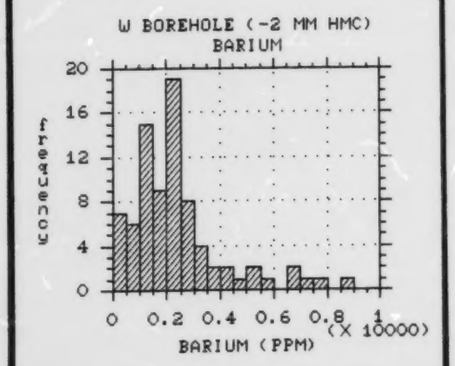




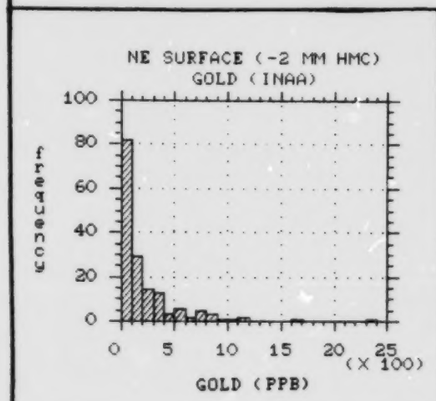


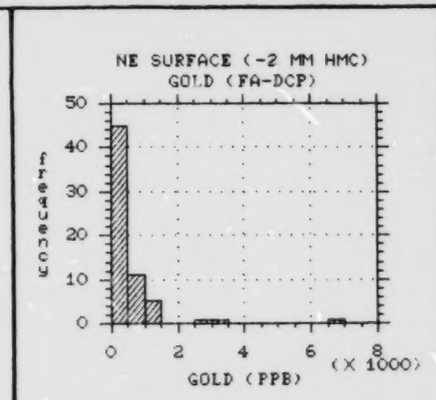


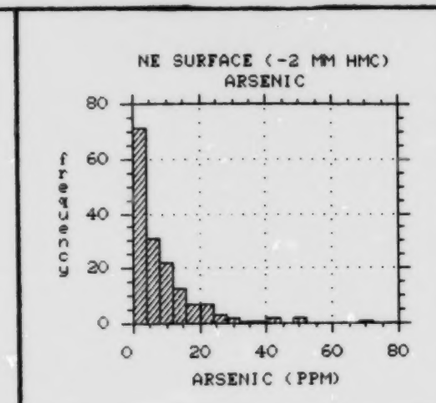


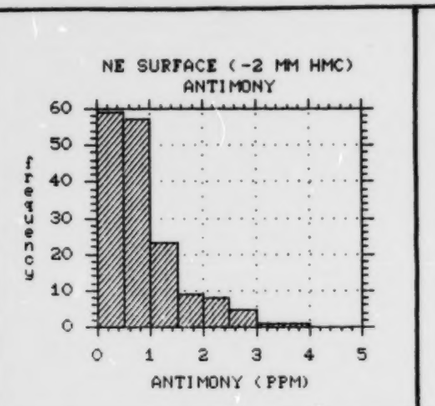


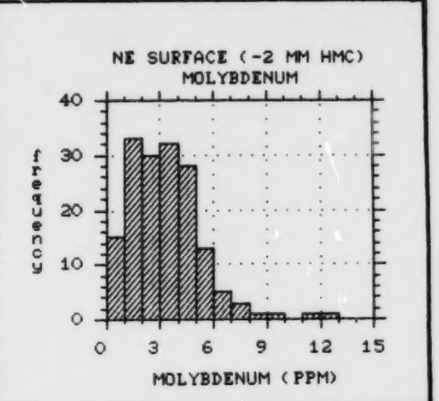
Surface Labradorean Till Geochemistry: -2 mm Non-magnetic HMC

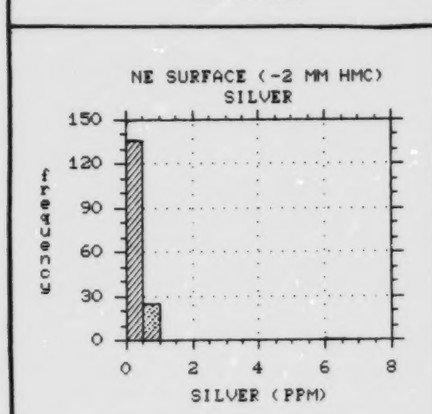


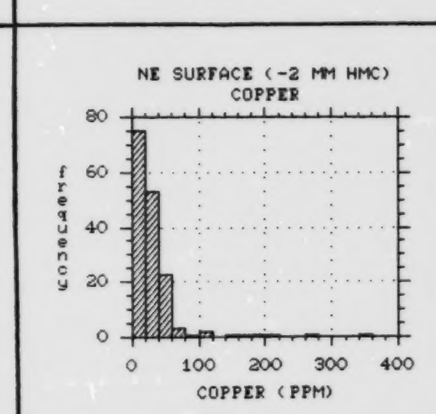


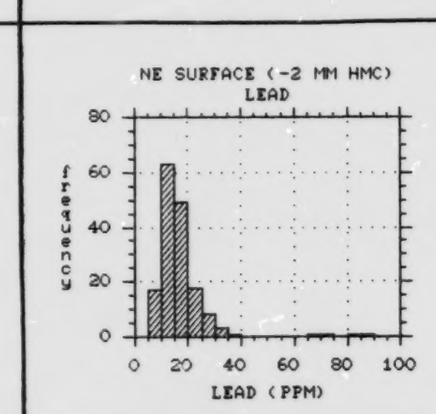


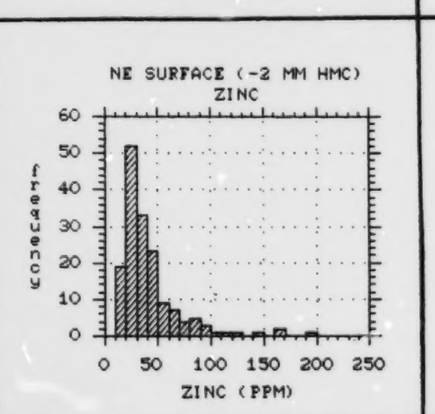


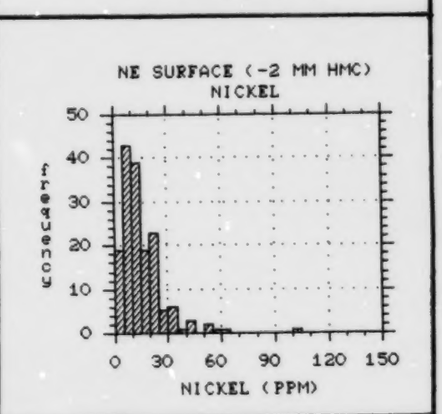


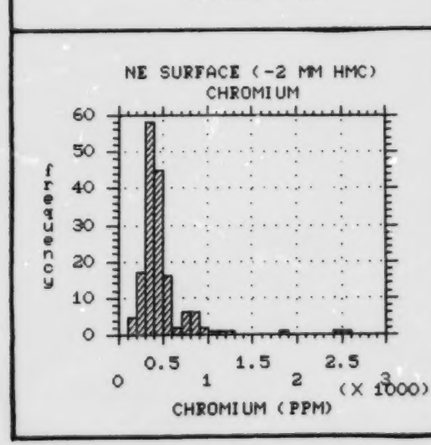


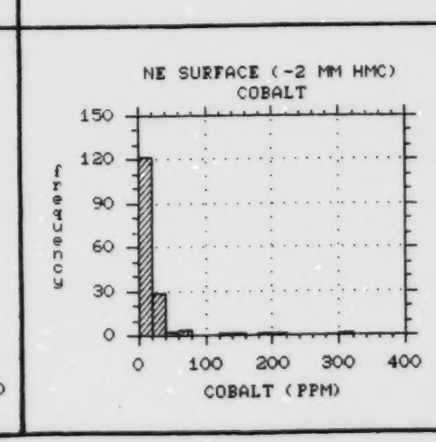


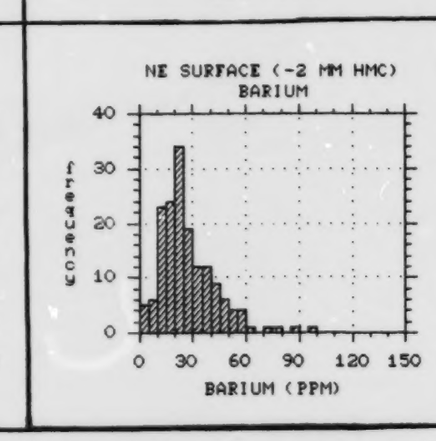




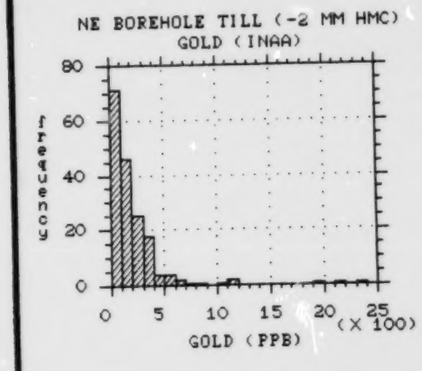


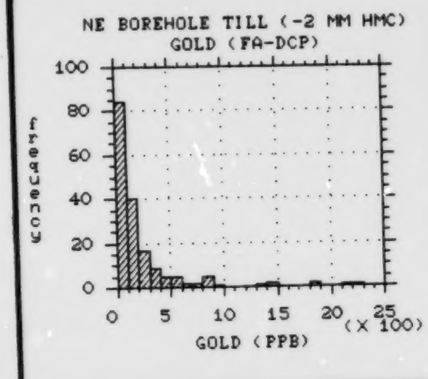


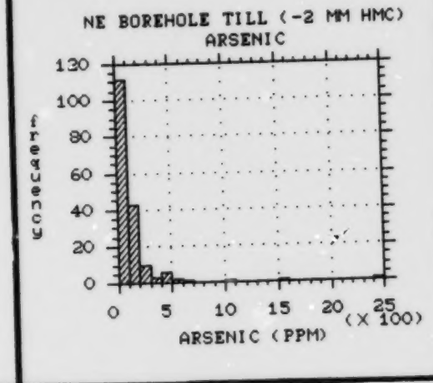


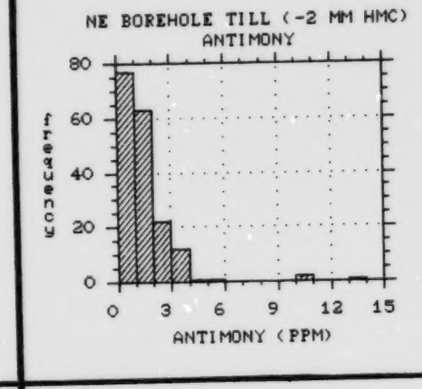


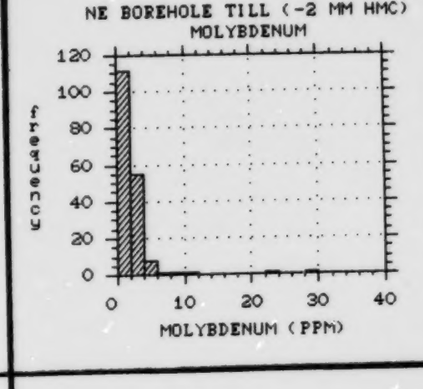
Borehole Labradorean Till Geochemistry: -2 mm Non-magnetic HMC

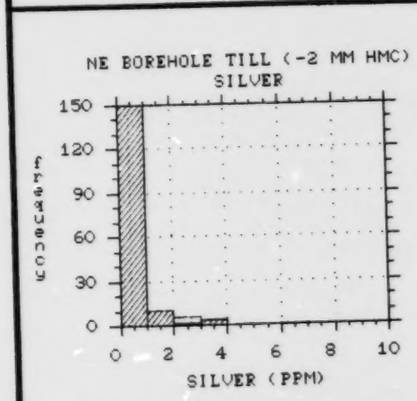


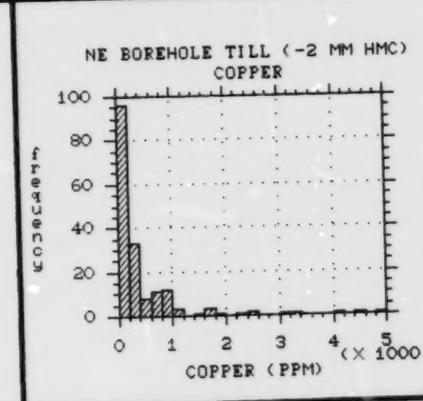


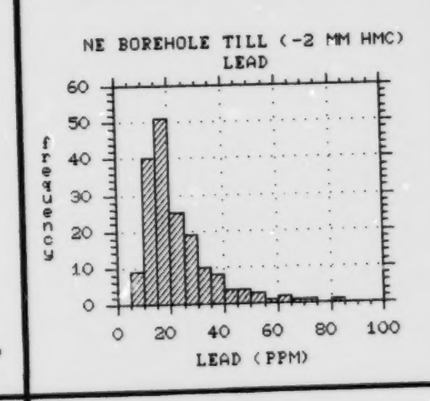


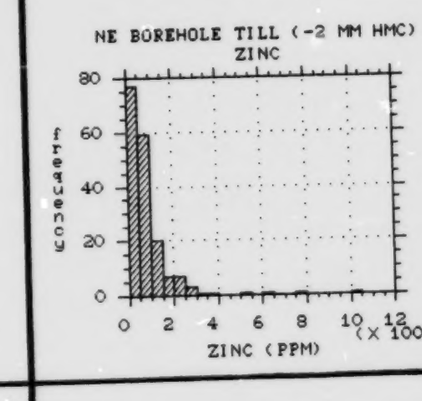


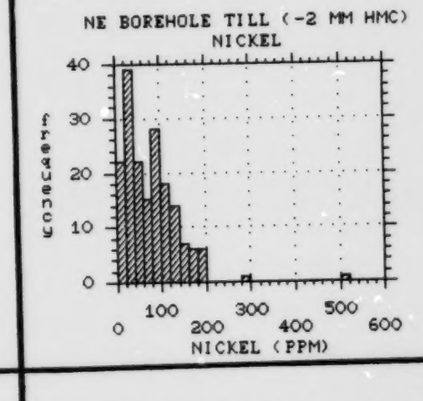


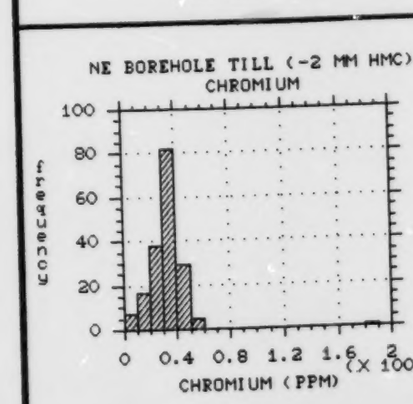


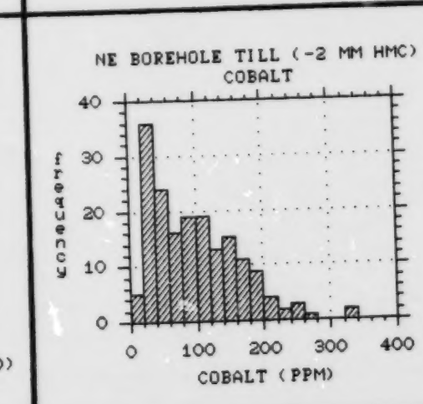


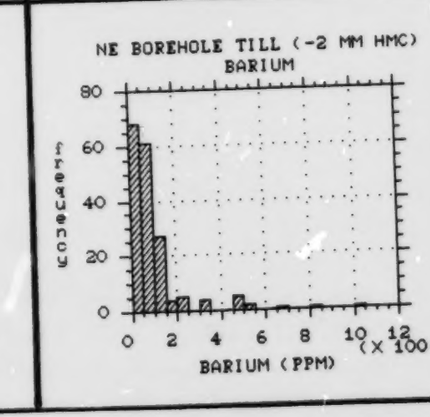


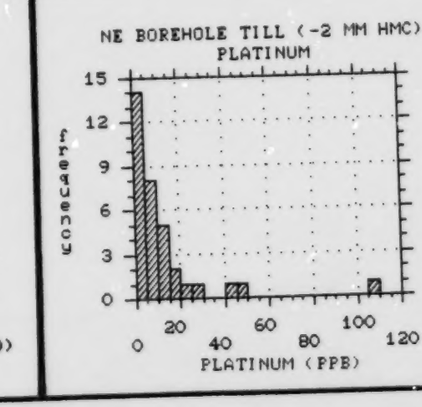


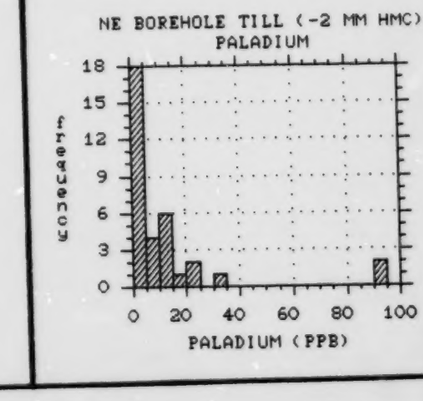




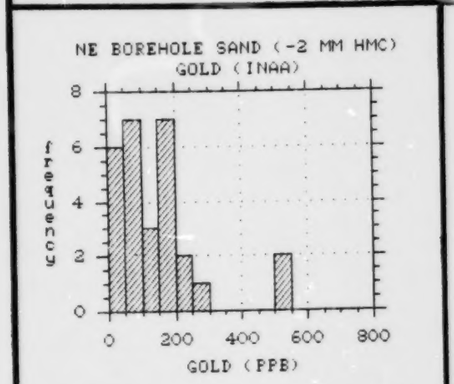


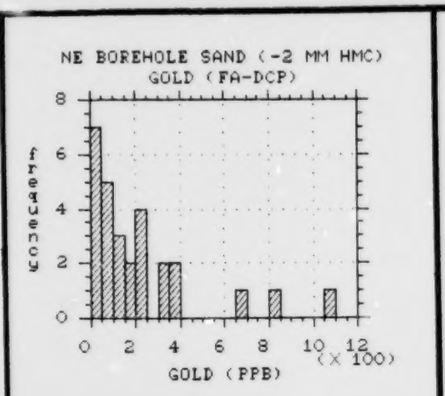


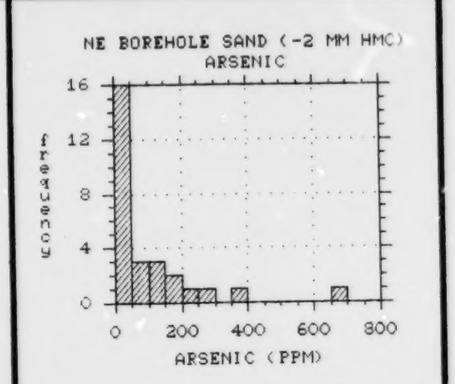


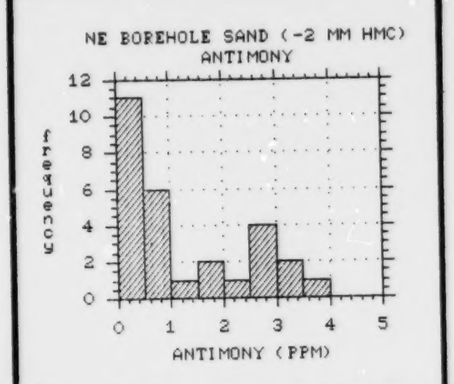


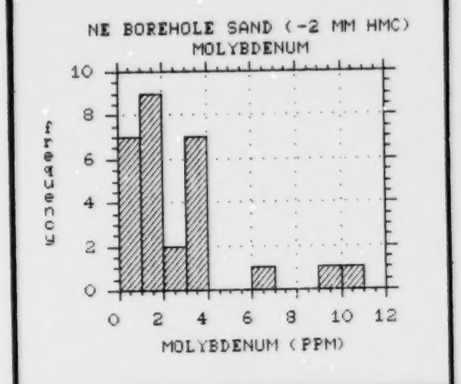
Borehole Labradorean Sand Geochemistry: -2 mm Non-magnetic HMC

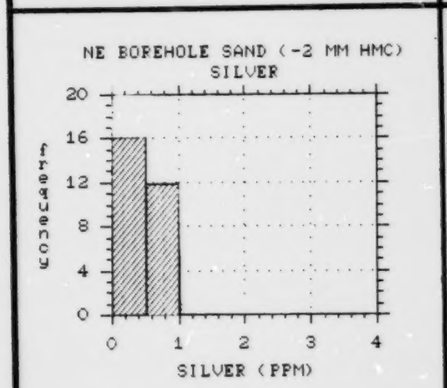


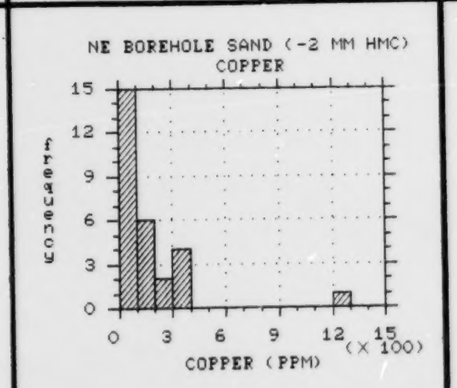


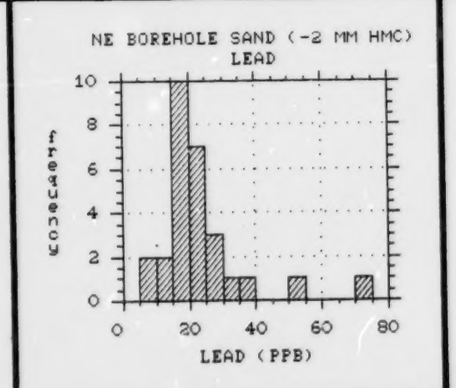


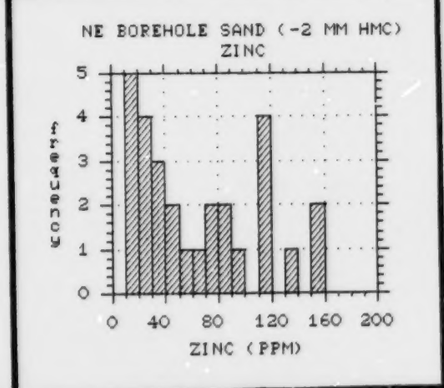


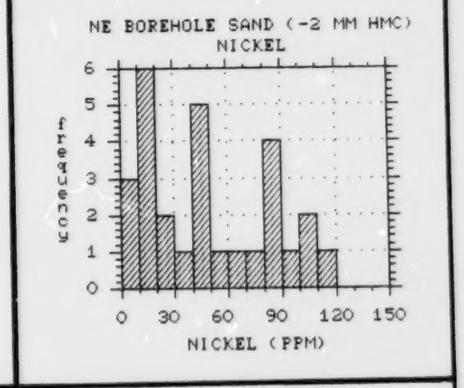


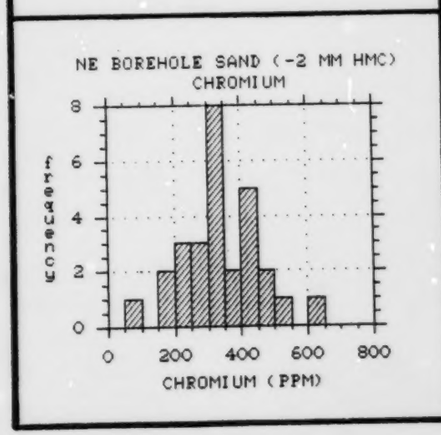


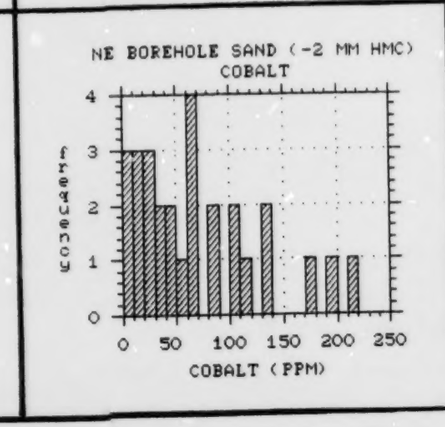


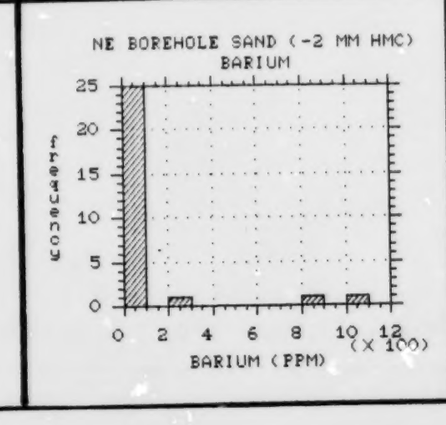


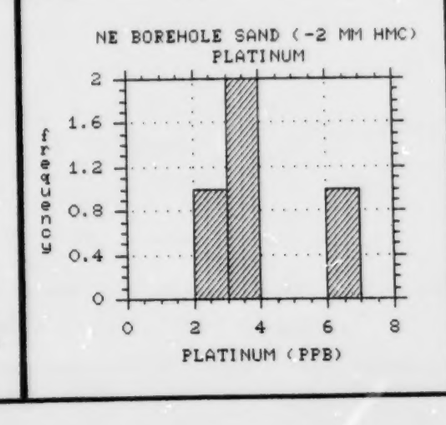


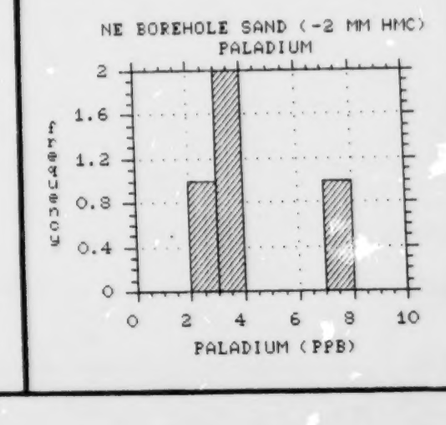












Correlation Matrices:

Correlation matrices were constructed for the silt and clay and the non-magnetic heavy mineral fractions of northeastern derived drift samples. Separate matrices were constructed for surface and borehole samples of each fraction using Pearson linear correlation coefficients (Tables 11 to 14).

Few element pairs display strong correlation coefficients (greater than 0.40) for all four geochemical populations. Rather, each dataset exhibits a unique set of correlations. The exception is the element pair Ni-Co which exhibits relatively strong correlations (greater than 0.67) for all four populations.

The silt and clay fraction of surface samples display few strong correlations (Table 11). This is attributed to

Table 11. Correlation matrix for the silt and clay fraction of northeastern derived till (surface samples).

	AU	AS	SB	MO	AG	CU	PB	ZN	NI	CR	CO	BA
AU	1.00											
AS	0.15	1.00										
SB	0.06	0.33	1.00									
MO	0.37	0.02	0.01	1.00								
AG	0.26	0.03	0.10	0.73	1.00							
CU	0.49	0.13	0.01	0.57	0.33	1.00						
PB	-0.07	0.00	-0.11	0.06	0.11	-0.02	1.00					
ZN	0.10	0.02	0.19	0.07	0.29	0.12	0.22	1.00				
NI	0.16	0.11	0.07	0.16	0.14	0.21	0.29	0.38	1.00			
CR	0.16	0.09	-0.06	0.41	0.27	0.28	0.16	0.10	0.59	1.00		
CO	0.10	0.17	0.05	-0.03	0.00	0.15	0.29	0.39	0.78	0.35	1.00	
BA	-0.36	-0.07	-0.11	-0.15	-0.05	-0.28	0.28	-0.15	-0.17	0.15	-0.28	1.00

NUMBER OF SAMPLES PER VARIABLE PAIR: 166

the differing degrees of mobility of different elements in the surface environment. The strongest correlations occur between: Au-Cu, Mo-Ag, Mo-Cu, Mo-Cr, Ni-Cr and Ni-Co, the most notable of which are Mo-Ag and Ni-Co. The positive correlations between Ni and Cr and Co are expected since they are usually associated with mafic and ultramafic igneous rocks.

The silt and clay fraction of borehole samples display a greater number of significant correlations (Table 12).

Table 12. Correlation matrix for the silt and clay fraction of northeastern derived till (borehole samples).

	AU	AS	SB	MO	AG	CU	PB	ZN	NI	CR	CO	BA	PT*	PD*
AU	1.00													
AS	0.10	1.00												
SB	0.35	0.09	1.00											
MO	0.16	0.00	0.19	1.00										
AG	0.39	-0.02	0.17	0.45	1.00									
CU	0.33	0.00	0.12	0.46	0.79	1.00								
PB	0.04	0.00	0.25	0.26	0.08	0.09	1.00							
ZN	0.18	0.16	0.24	0.27	0.05	0.09	0.39	1.00						
NI	0.07	0.13	0.16	0.19	0.01	0.11	0.17	0.55	1.00					
CR	-0.01	0.14	0.17	0.05	-0.08	0.01	0.02	0.28	0.86	1.00				
CO	0.08	0.15	0.04	0.11	0.02	0.09	0.20	0.62	0.81	0.72	1.00			
BA	-0.16	-0.04	-0.09	0.09	0.05	0.05	0.19	0.12	-0.12	-0.10	-0.17	1.00		
PT*	-0.04	-0.11	0.16	-0.01	-0.15	0.52	-0.12	0.11	0.46	0.37	0.69	-0.54	1.00	
PD*	0.48	-0.03	0.05	-0.17	0.10	0.26	-0.09	-0.09	0.30	0.27	0.46	-0.15	0.44	1.00

NUMBER OF SAMPLES PER VARIABLE PAIR: 178 (* FOR PT AND PD: 33)

These include: Au-Pd, Mo-Ag, Mo-Cu, Ag-Cu, Cu-Pt, Zn-Ni, Zn-Co, Ni-Cr, Ni-Co, Ni-Pt, Cr-Co, Co-Pt, Co-Pd and Pt-Pd, the most notable of which are Ag-Cu, Ni-Cr, Ni-Co and Cr-Co. The strong correlations between Ni, Cr, Co, Pt and Pd are expected as these elements often occur in association

with mafic to ultramafic igneous rocks. The elements, Ba and Pt display strong negative correlations. Barium occurs most commonly in acid igneous rocks such as syenites and granites where it is bound within the lattices of potassium feldspars (Boyle 1974). Platinum is hosted within mafic to ultramafic igneous rocks, hence, the strong negative correlation.

The non-magnetic heavy mineral fraction of surface and borehole samples exhibit a number of strong geochemical correlations (Tables 13 and 14). Gold is closely associated

Table 13. Correlation matrix for the non-magnetic heavy mineral fraction of northeastern derived till (surface samples).

	AUNA	AUFA*	AS	SB	MO	AG	CU	PB	ZN	NI	CR	CO	BA
AUNA	1.00												
AUFA*	0.25	1.00											
AS	0.24	0.16	1.00										
SB	0.36	0.06	0.83	1.00									
MO	-0.16	-0.13	0.03	0.08	1.00								
AG	0.56	0.13	0.14	0.19	-0.19	1.00							
CU	0.24	0.31	0.49	0.64	0.15	0.16	1.00						
PB	-0.05	-0.14	0.30	0.26	0.19	-0.05	0.27	1.00					
ZN	0.17	0.01	0.39	0.39	-0.05	0.16	0.31	0.19	1.00				
NI	0.18	0.12	0.78	0.64	0.10	0.22	0.48	0.21	0.33	1.00			
CR	0.10	-0.08	0.33	0.41	0.15	0.09	0.31	0.35	0.18	0.57	1.00		
CO	0.19	0.25	0.75	0.59	0.06	0.21	0.58	0.47	0.32	0.74	0.52	1.00	
BA	0.06	-0.20	0.34	0.32	0.12	0.09	0.22	0.37	0.16	0.44	0.44	0.43	1.00

NUMBER OF SAMPLES PER VARIABLE PAIR: 163 (* FOR AUFA: 64)

with silver in surface samples and displays marginal associations with antimony in both surface and borehole

samples. Arsenic is strongly correlated with Sb, Cu, Ni and Co in surface samples and with Sb, Zn and Co in borehole

Table 14. Correlation matrix for the non-magnetic heavy mineral fraction of northeastern derived till (borehole samples).

	AUNA	AUFA	AS	SB	MO	AG	CU	PB	ZN	NI	CR	CO	BA	PT*	PD*
AUNA	1.00														
AUFA	0.91	1.00													
AS	0.26	0.09	1.00												
SB	0.36	0.12	0.63	1.00											
MO	0.00	0.01	0.01	0.04	1.00										
AG	0.30	0.11	0.32	0.53	0.01	1.00									
CU	0.09	0.02	0.07	0.14	0.10	0.36	1.00								
PB	0.04	0.01	0.20	0.34	0.19	0.29	0.19	1.00							
ZN	0.29	0.09	0.53	0.68	0.01	0.47	0.12	0.42	1.00						
NI	0.15	0.10	0.32	0.57	0.28	0.33	0.35	0.38	0.37	1.00					
CR	-0.05	0.04	-0.16	-0.19	0.40	-0.28	-0.03	-0.07	-0.27	-0.02	1.00				
CO	0.26	0.13	0.49	0.65	0.19	0.45	0.29	0.25	0.38	0.67	-0.07	1.00			
BA	-0.04	-0.03	0.02	0.10	0.25	0.11	0.24	0.35	0.10	0.18	0.24	0.14	1.00		
PT*	-0.07	-0.04	0.02	-0.01	0.14	0.07	0.13	0.13	0.09	0.30	0.07	0.14	0.06	1.00	
PD*	-0.06	-0.04	0.01	-0.01	0.14	0.12	0.13	0.12	0.05	0.28	0.07	0.21	0.10	0.92	1.00

NUMBER OF SAMPLES PER VARIABLE PAIR: 207 (* FOR PT AND PD: 38)

samples. Antimony shows strong correlations with Cu, Ni, Cr and Co in surface samples and with Ag, Zn, Ni and Co in borehole samples. The elements, Cu, Zn and Ni correlate marginally with each other in both surface and borehole samples. Surface samples display strong correlations between the elements Ni, Cr, Co and Ba as well. The elements, Pt and Pd are very closely associated in unweathered borehole samples. This correlation could not be tested for surface samples as they were not analyzed for Pt or Pd.

There is no apparent association between Au and its pathfinder elements, As and Sb in both fractions of oxidized and unoxidized samples (Figures 14 and 15). Correlation coefficients range from 0.06 to 0.36.

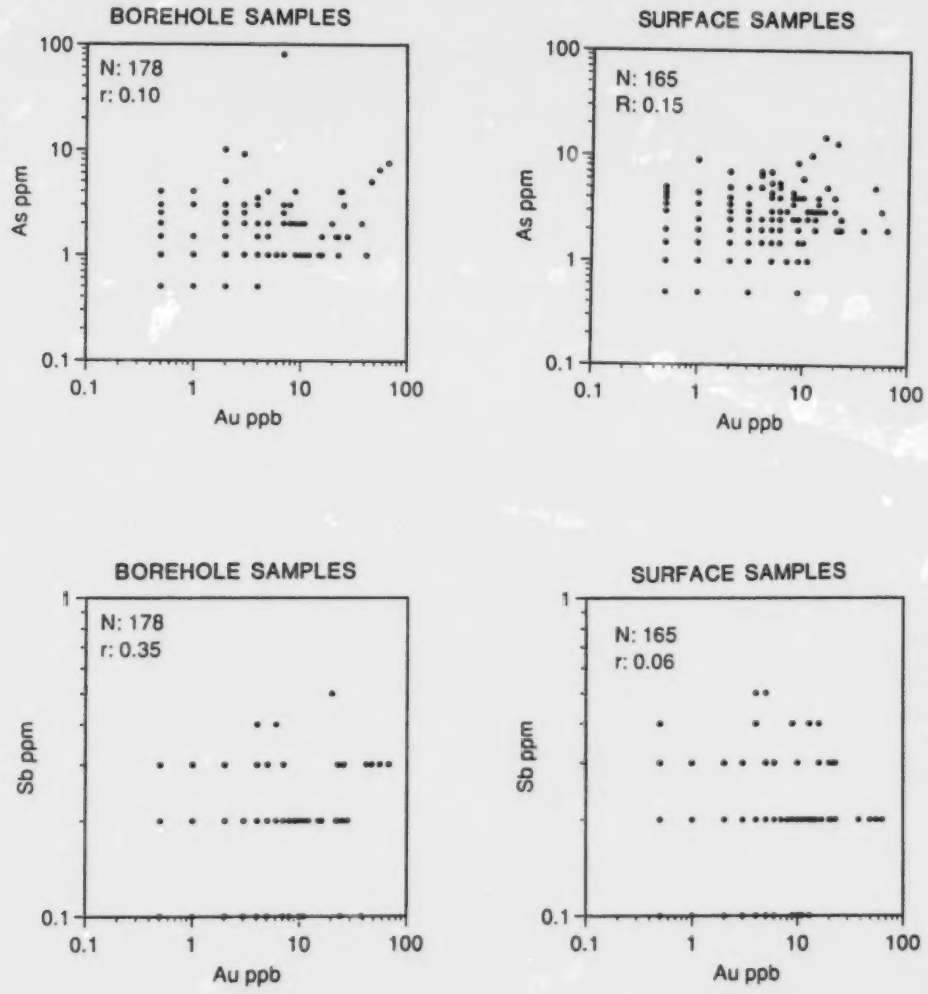


Figure 14. Plots of Au vs As and Au vs Sb for the silt and clay fraction of surface and borehole samples.

Even in the anomalous range of gold values (i.e., 20 to 25 ppb for the silt and clay fraction and 1000 ppb for the non-magnetic heavy mineral fraction), there is only a slight

suggestion of correlatability between the elements. This poorly defined relationship between Au and its pathfinder elements may be a function of the nature of Au mineralization within the report area.

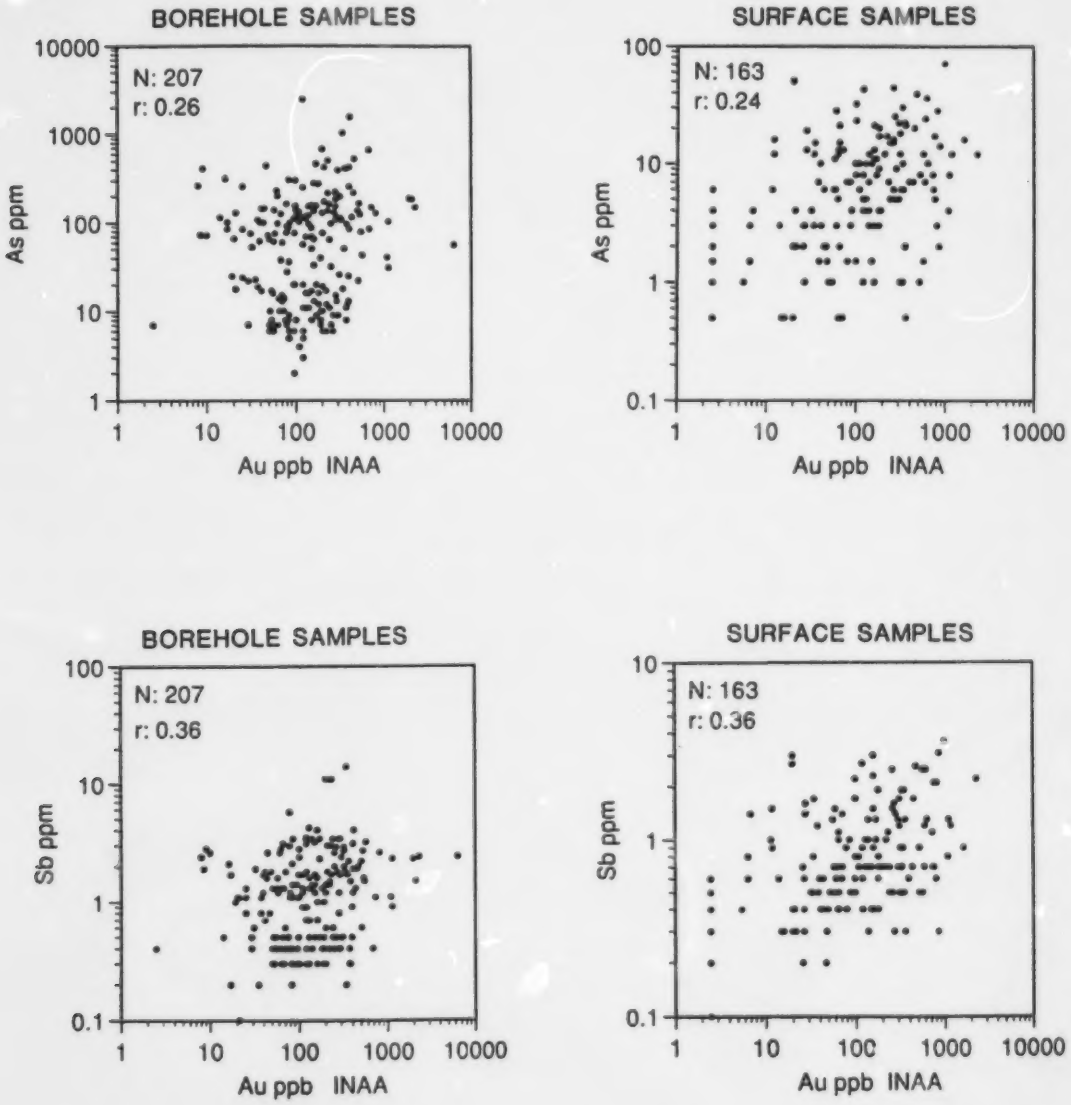


Figure 15. Plots of Au vs As and Au vs Sb for the non-magnetic heavy mineral fraction of surface and borehole samples.

Geochemical Anomalies

Anomaly maps were constructed for the geochemical dataset of Labradorean (northeastern) derived till samples (Datasheet Series E). Platinum and palladium maps were excluded from the series since few samples were selected for geochemical analysis. The series contains two maps per element; one for the silt and clay fraction and the other for the non-magnetic heavy mineral concentrate. Surface and borehole sample anomalies are both plotted on the same map for convenience. An average of 2-3 samples of northeastern derived till were recovered from each borehole in the report area. The highest geochemical values, from the series of till samples in each borehole, were used to plot the anomalous sample locations. Two anomaly classes were chosen for each population; ranges corresponding to the 90th to 95th and 95th to 100th percentiles. In certain instances, it was not possible to distinguish between the 90th and 95th percentiles because of the large number of samples with similar geochemical signatures. The 90th to 100th percentiles were chosen to depict the anomalies in these situations. The percentiles were calculated using log normalized data because of the positively skewed populations.

Geochemical anomalies will be discussed in groups of elements; some of which occur in close association with each other. These include: Au-As-Sb, Cu-Pb-Zn, Ni-Cr-Co, Ag and Mo-Ba.

Au-As-Sb

The most important Au-As-Sb anomalies are located in Potts and Fleming townships around Off Lake and within a more diffuse zone spanning Richardson, Patullo, Tait, Shenston and Morley townships. These anomalies are well defined by both the silt and clay and the non-magnetic heavy mineral fractions. Anomalous silt and clay fraction gold values were also obtained from samples collected in Menary and Senn townships. Arsenic anomalies in the non-magnetic heavy mineral concentrate occur in Roddick and Aylsworth townships, within the Quetico metasediments and in Dobie and Shenston townships close to the mafic, Dobie Intrusion. Fine fraction arsenic anomalies occur in the vicinity of the Dobie Intrusion and in Blue, Nelles and Patullo townships along the projection of the Quetico fault.

Cu-Pb-Zn

Cu-Pb-Zn geochemical anomalies occur within either the silt and clay or the non-magnetic heavy mineral concentrate fractions of till samples collected in the vicinity of Off Lake, Burditt Lake, Panorama Lake, Potts Lake and Beadle Lake. Copper anomalies also occur in Blue, Nelles, and Spohn townships at sites where native copper grains have been reported (see Map P.3140, back pocket). However, not all samples containing native copper grains have yielded strong copper geochemical anomalies. Lead anomalies have also been obtained from samples collected in Morley,

Shenston, Nelles, Patullo, Dance and Griesinger townships. In addition to those noted above, zinc anomalies occur in Tait, Richardson, Shenston, Patullo and Atwood townships.

Ni-Cr-Co

Ni-Cr-Co anomalies are generally associated with rocks of mafic and ultramafic igneous origin (Boyle 1974). Most of the anomalies highlighted in the report area occur within this type of terrain. For example, Ni-Cr-Co anomalies occur in the vicinity of Off Lake, Burditt Lake, Panorama Lake, Potts Lake and Boundary Lake. Anomalies also occur in the western end of the report area within Nelles, Blue, Dilke and Worthington townships as well as in Dobie Township close to the Dobie Intrusion. Isolated anomalies have been documented within Morley, Shenston, Tait and Curran townships.

Ag

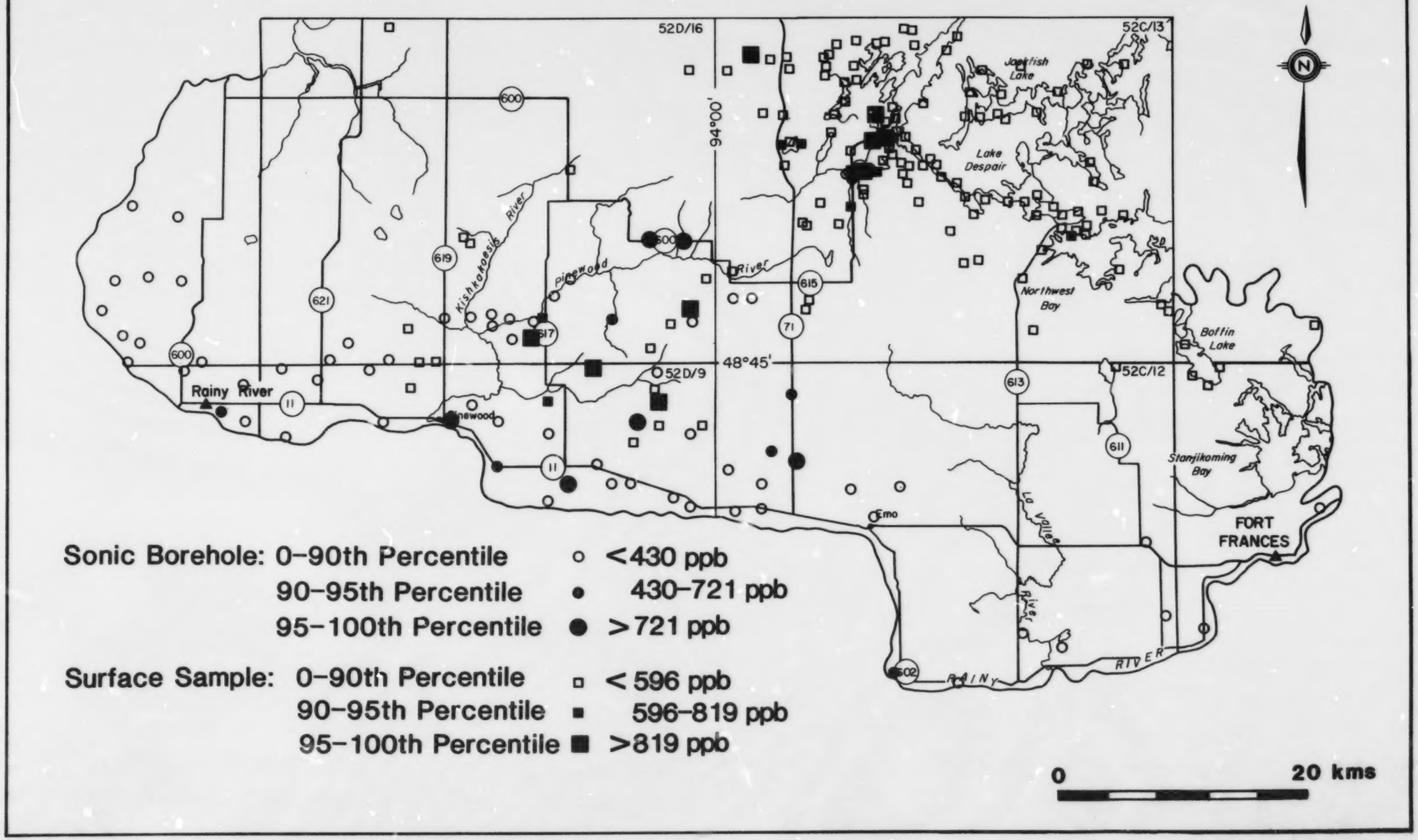
The silver anomaly map for the non-magnetic heavy mineral fraction shows sample sites with silver values in excess of 1.7 ppm (1 standard deviation for the silver standard). Rather than using the 90th and 95th percentiles as the anomaly cutoffs, it was felt that a better representation of the anomalies was achieved by using this value. Follow-up work is recommended to further substantiate these anomalies. Silver anomalies occur primarily along a northeast trending belt between the Off Lake-Burditt Lake area and Potts, Richardson, Tait and Patullo townships. Isolated anomalies

occur in Dobie, Shenston, Blue, Curran and Fleming townships as well as around Halfway Inlet and Northwest Bay of Rainy Lake.

Mo-Ba

Molybdenum and barium occur at enriched levels within felsic-intermediate igneous rocks (Boyle 1974). In the report area, anomalous values of Mo and Ba occur in samples collected from the northeast and the southwest corners of the report area where northeastern derived till contains high concentrations of felsic-intermediate intrusive lithologies. Molybdenum anomalies also occur in the vicinity of Off Lake, where quartz-feldspar porphyries are abundant and in Dobie and Carpenter townships where mixed mafic to felsic igneous rocks and metasediments are common. Barium anomalies also occur in Shenston, Dilke, Blue and Worthington townships.

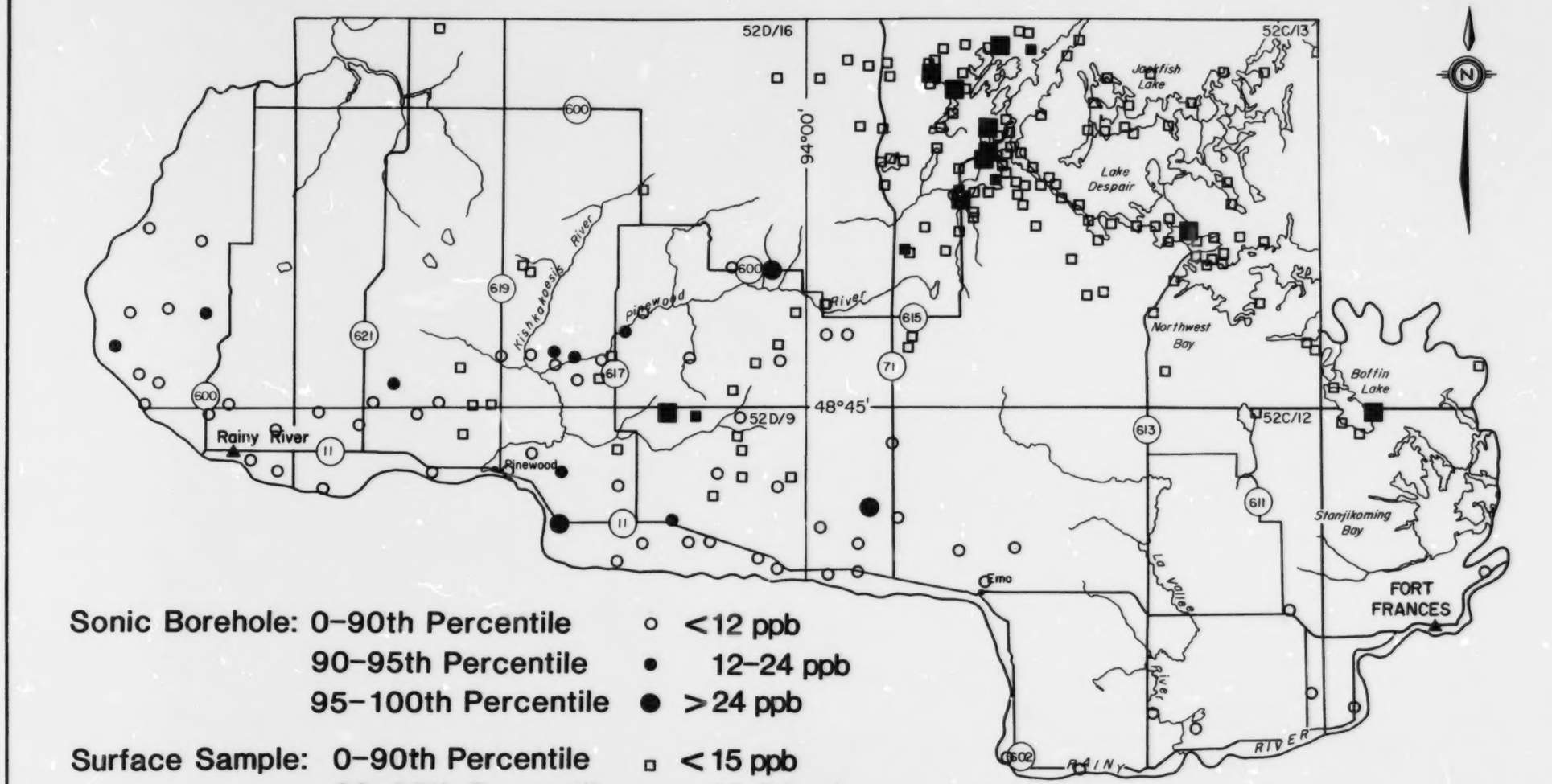
Gold in Labradorean Till: -2 mm Non-magnetic HMC



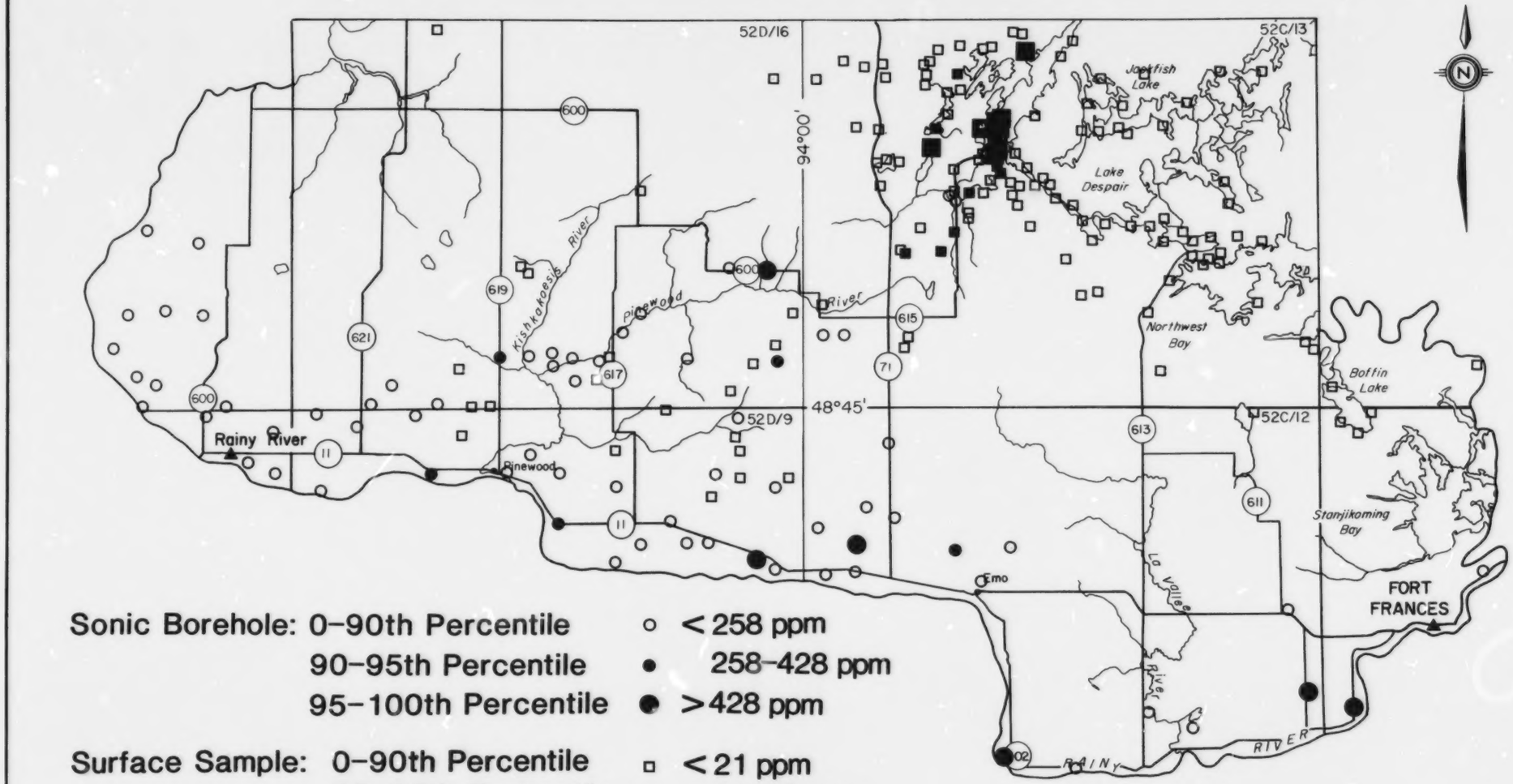
Sonic Borehole: 0-90th Percentile ○ <430 ppb
90-95th Percentile ● 430-721 ppb
95-100th Percentile ● >721 ppb

Surface Sample: 0-90th Percentile □ <596 ppb
90-95th Percentile ■ 596-819 ppb
95-100th Percentile ■ >819 ppb

Gold in Labradorean Till: Silt and Clay Fraction



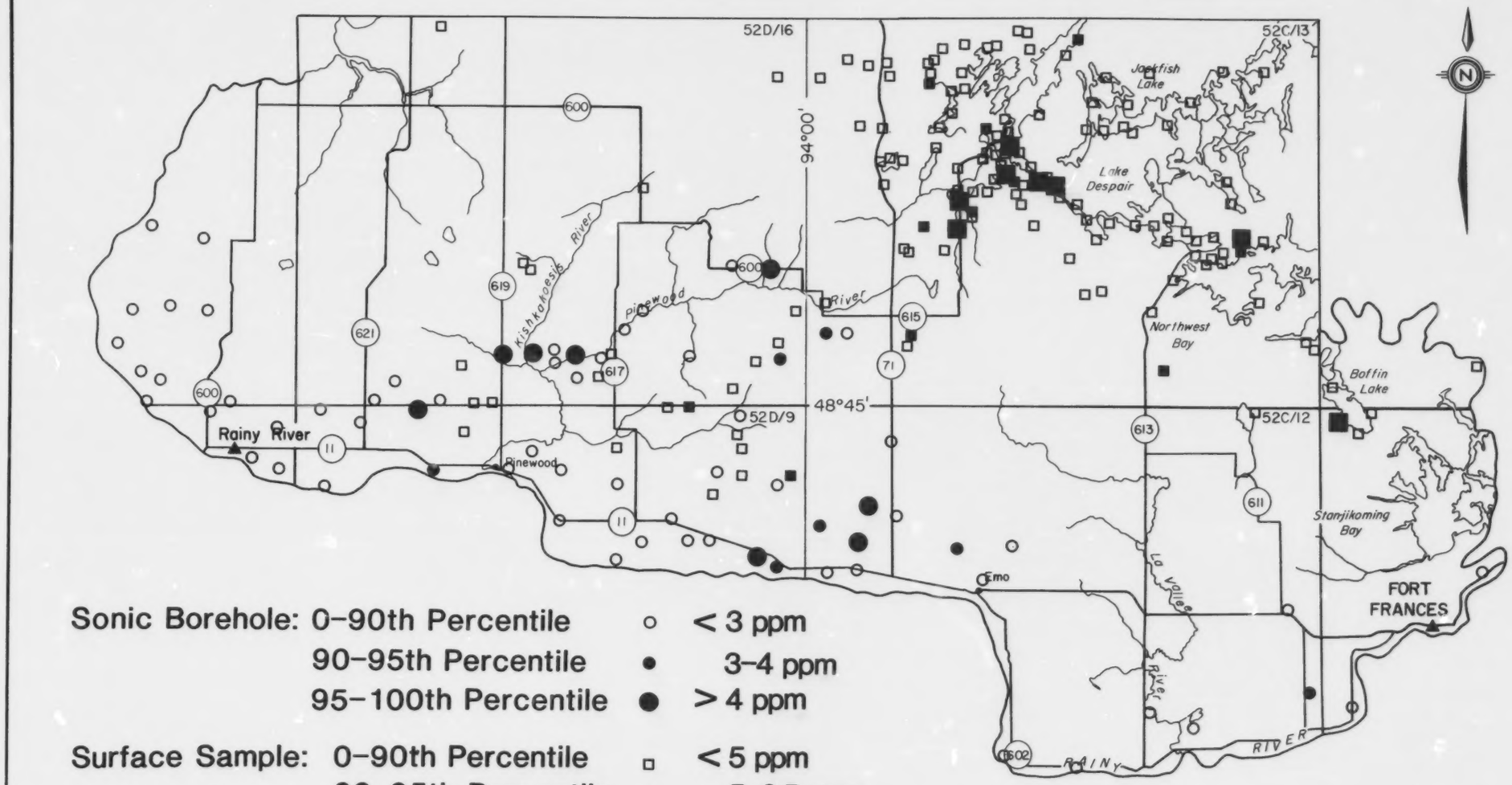
Arsenic in Labradorean Till: −2 mm Non−magnetic HMC



Sonic Borehole: 0−90th Percentile ○ < 258 ppm
90−95th Percentile ● 258−428 ppm
95−100th Percentile ● > 428 ppm

Surface Sample: 0−90th Percentile □ < 21 ppm
90−95th Percentile ■ 21−30 ppm
95−100th Percentile ■ > 30 ppm

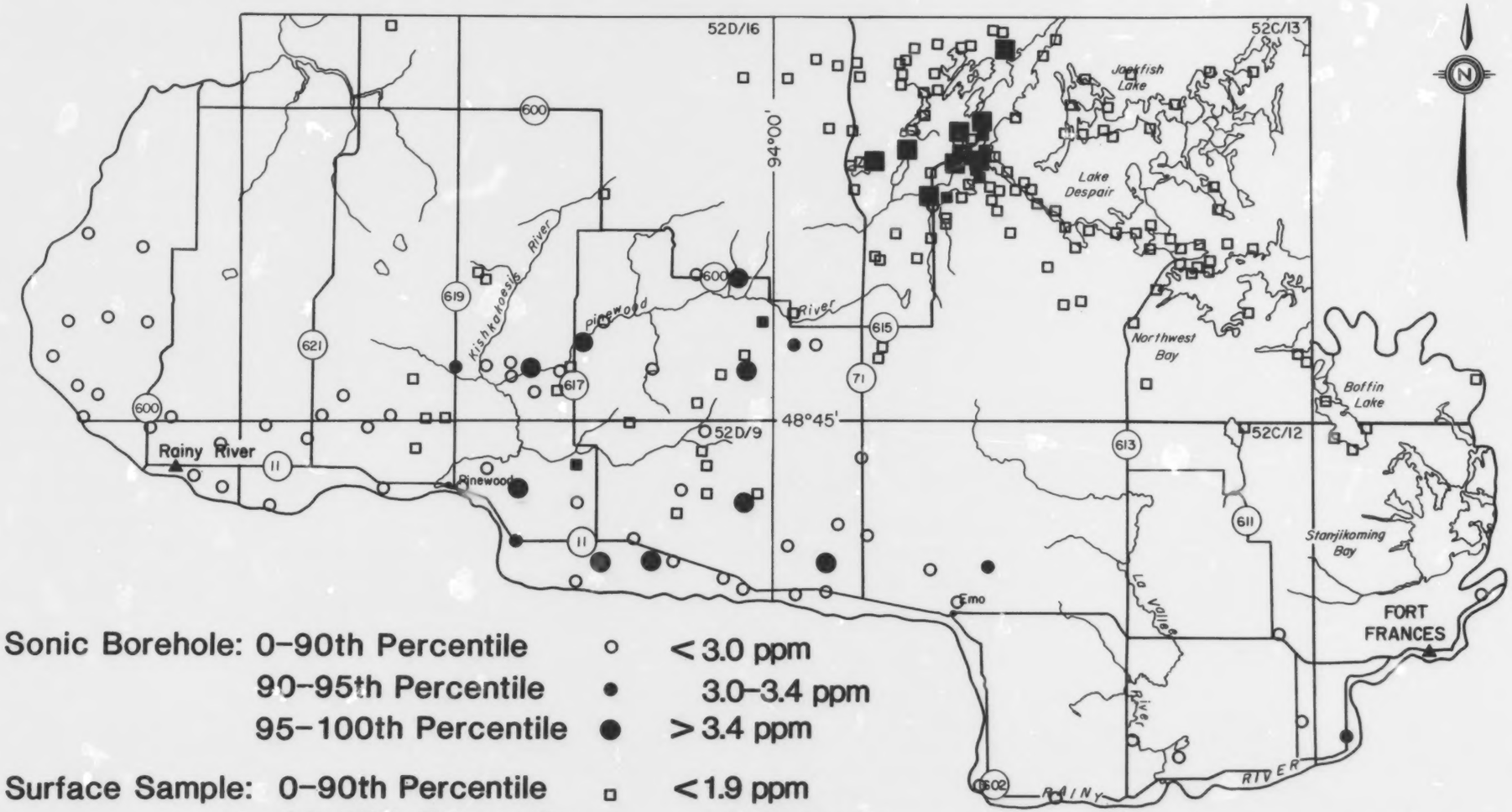
Arsenic in Labradorean Till: Silt and Clay Fraction



Sonic Borehole: 0–90th Percentile ○ < 3 ppm
90–95th Percentile ● 3–4 ppm
95–100th Percentile ● > 4 ppm

Surface Sample: 0–90th Percentile □ < 5 ppm
90–95th Percentile ■ 5–6.5 ppm
95–100th Percentile ■ > 6.5 ppm

Antimony in Labradorean Till: −2 mm Non−magnetic HMC

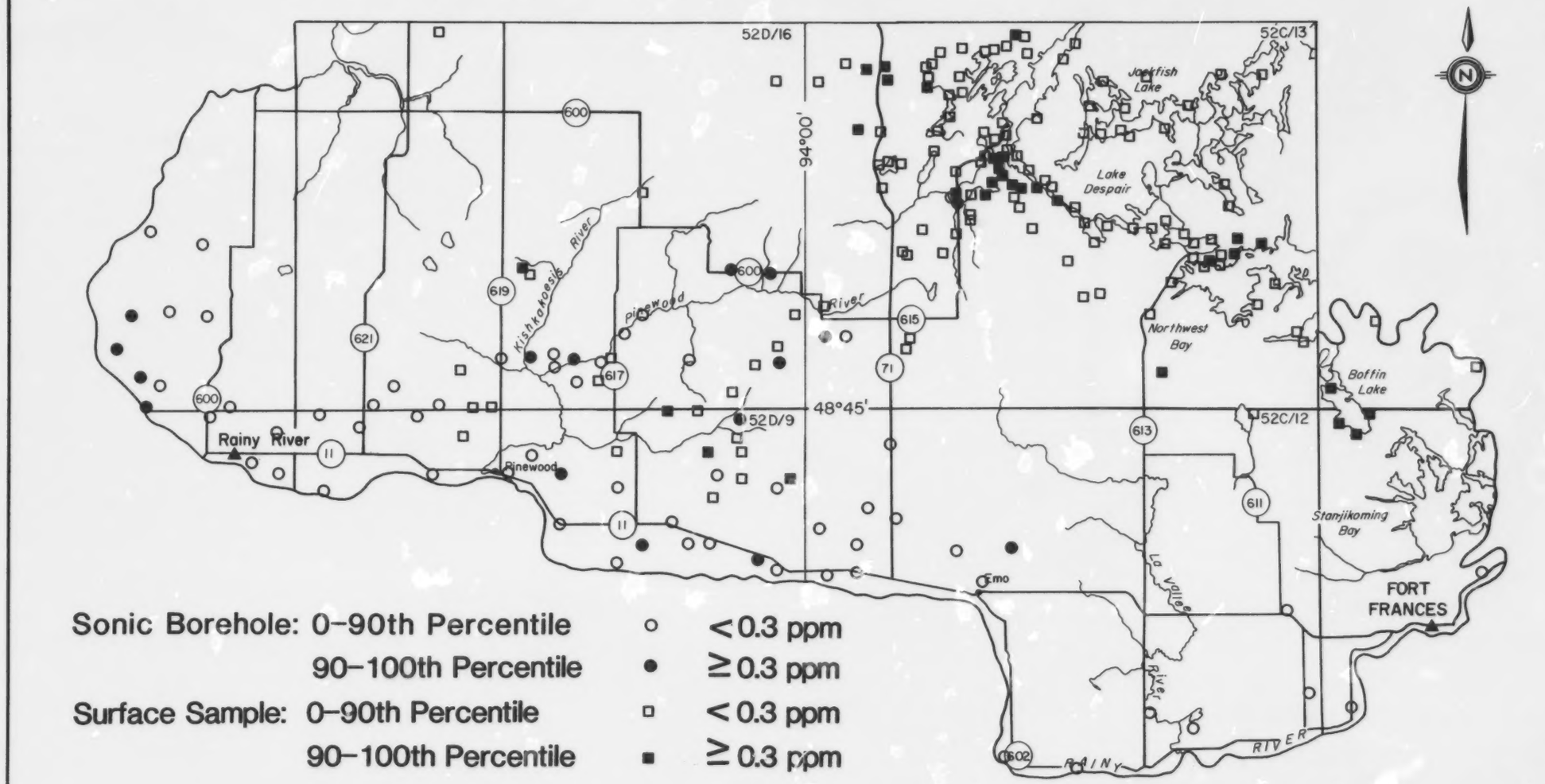


Sonic Borehole: 0−90th Percentile ○ < 3.0 ppm
90−95th Percentile ● 3.0−3.4 ppm
95−100th Percentile ● > 3.4 ppm

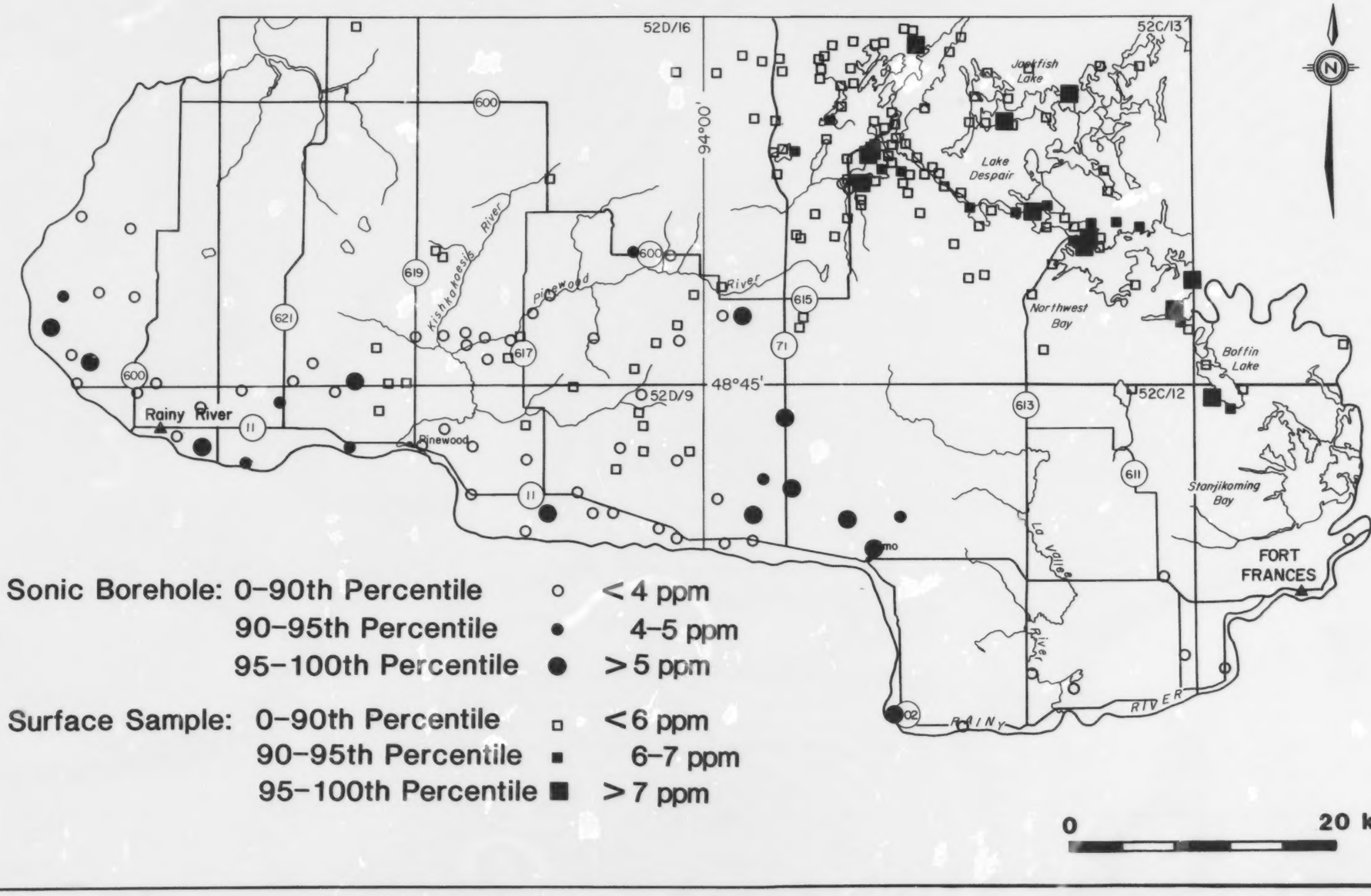
Surface Sample: 0−90th Percentile □ < 1.9 ppm
90−95th Percentile ■ 1.9−2.5 ppm
95−100th Percentile ■ < 2.5 ppm

0 20 kms

Antimony in Labradorean Till: Silt and Clay Fraction



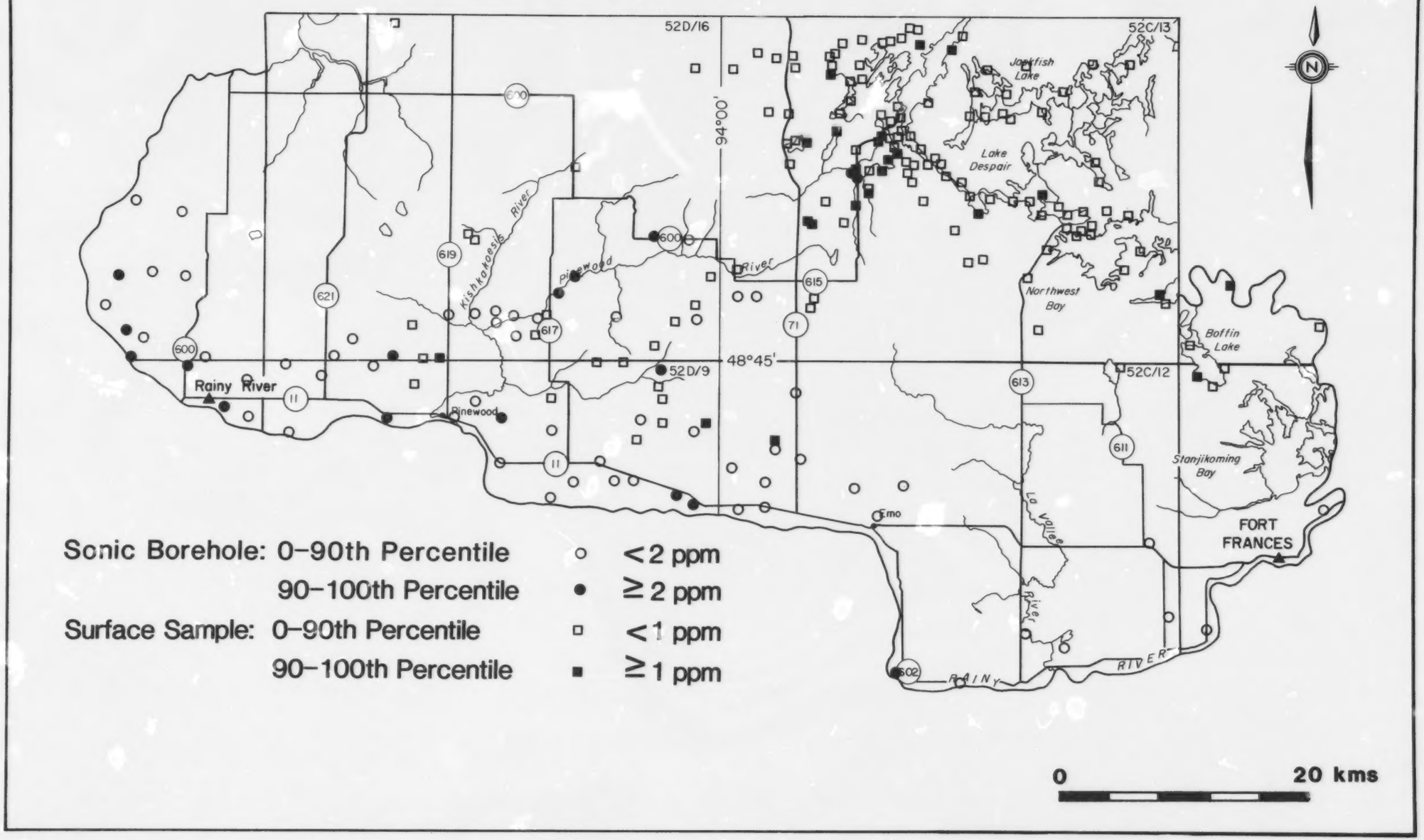
Molybdenum in Labradorean Till: −2 mm Non−magnetic HMC



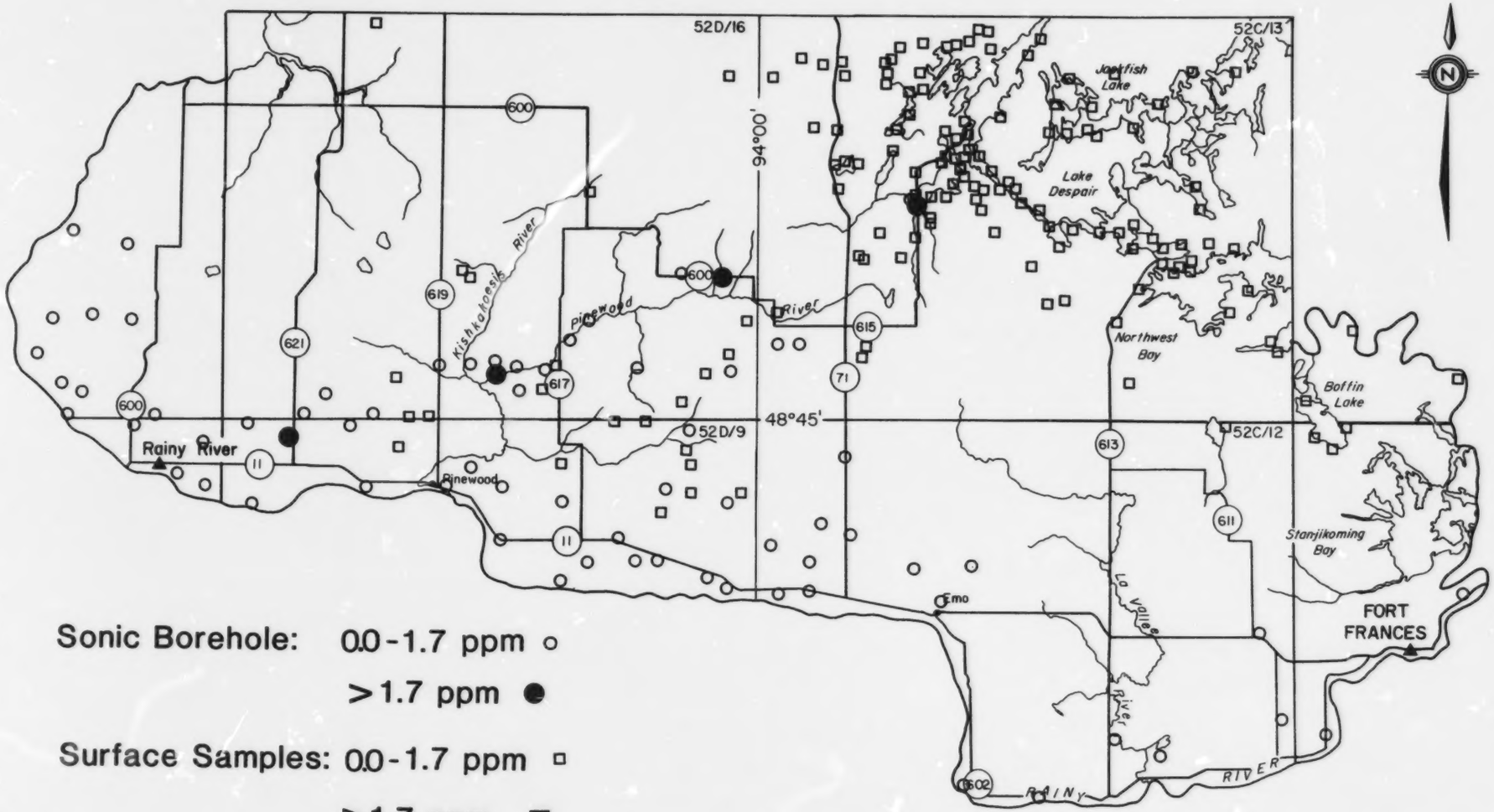
Sonic Borehole: 0−90th Percentile ○ < 4 ppm
90−95th Percentile ● 4−5 ppm
95−100th Percentile ● > 5 ppm

Surface Sample: 0−90th Percentile □ < 6 ppm
90−95th Percentile ■ 6−7 ppm
95−100th Percentile ■ > 7 ppm

Molybdenum in Labradorean Till: Silt and Clay Fraction



Silver in Labradorean Till: −2 mm Non-magnetic HMC



Sonic Borehole: 0.0-1.7 ppm ○

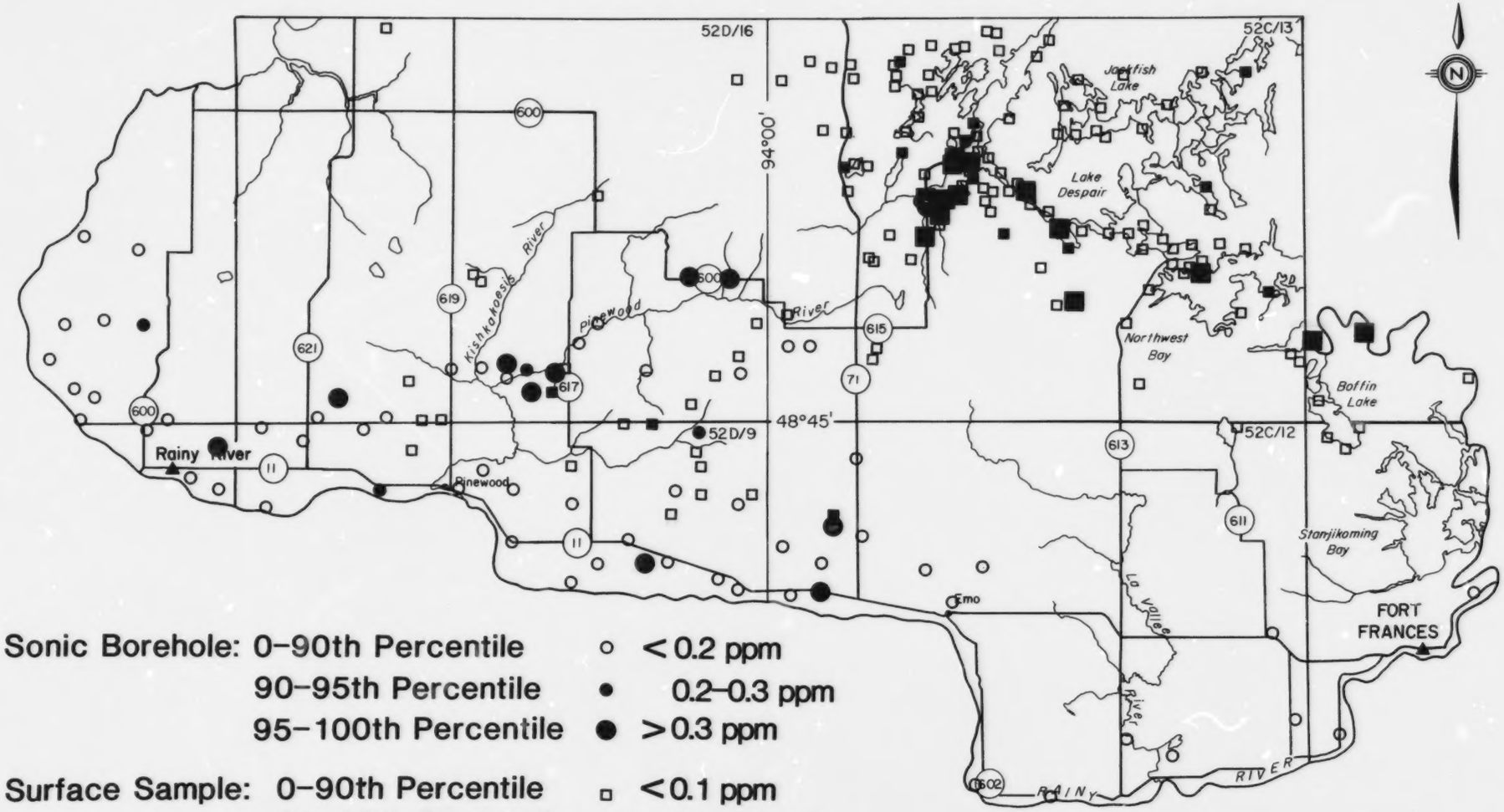
>1.7 ppm ●

Surface Samples: 0.0-1.7 ppm □

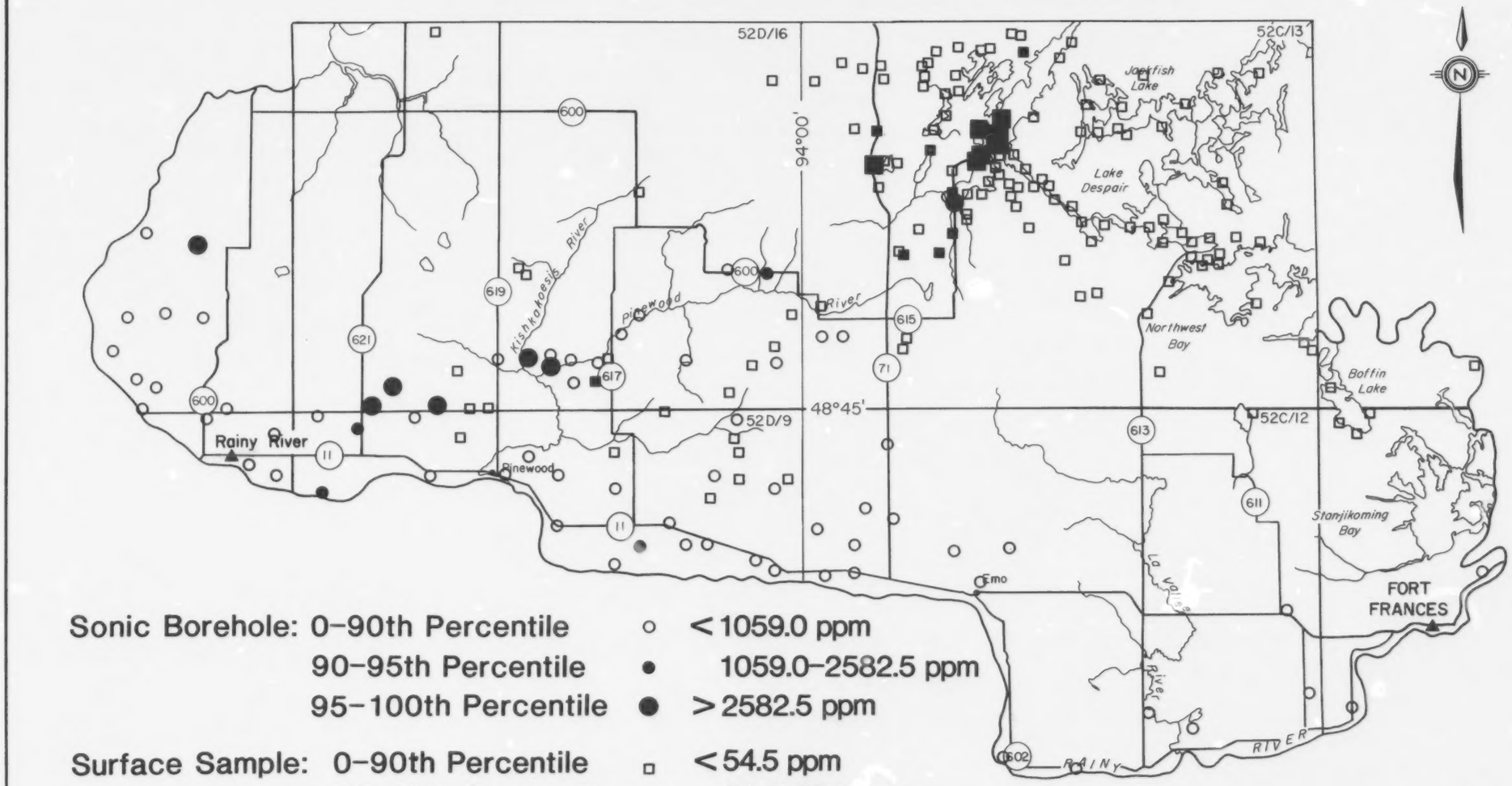
>1.7 ppm ■

0 20 kms

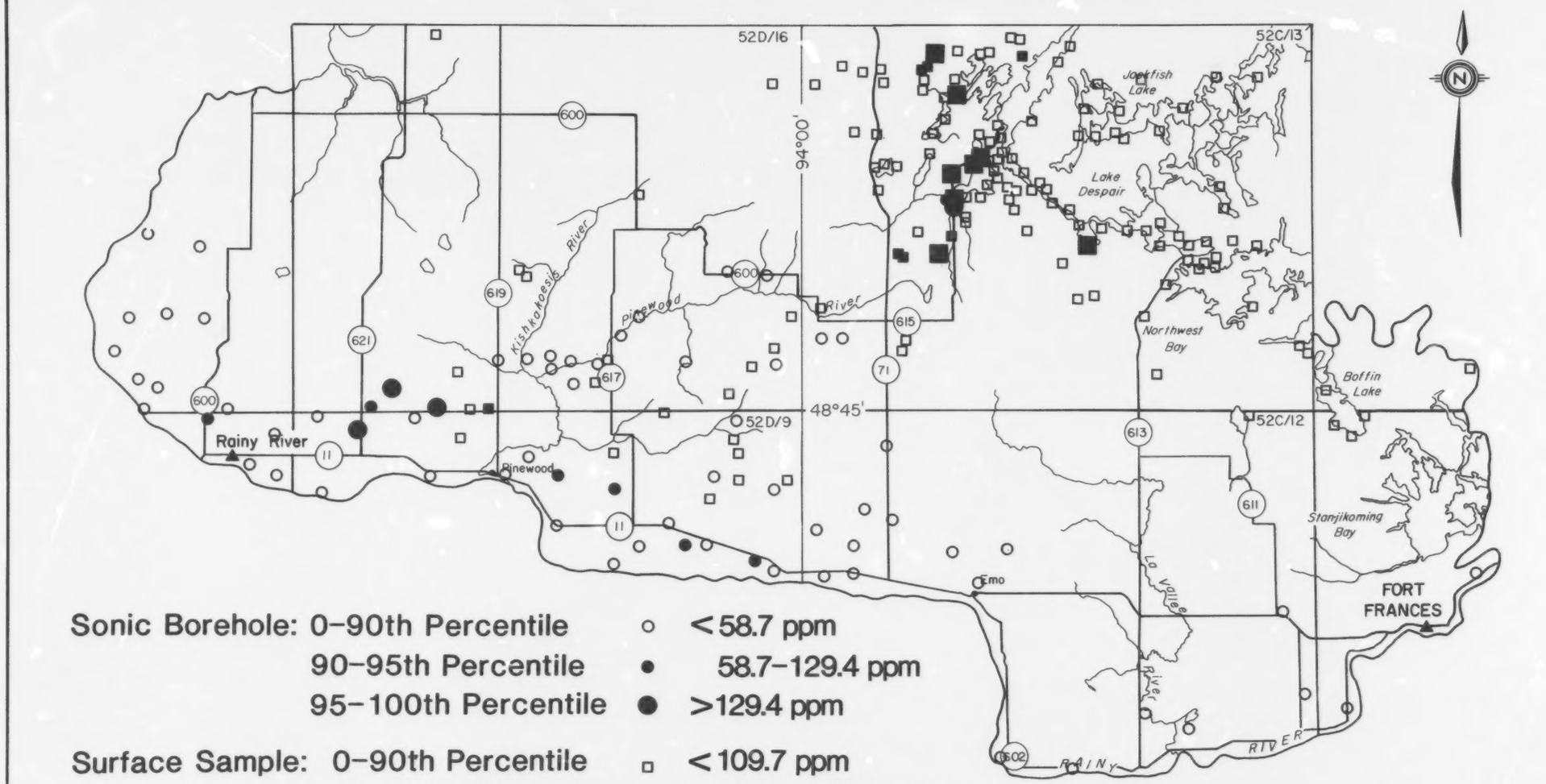
Silver in Labradorean Till: Silt and Clay Fraction



Copper in Labradorean Till: −2 mm Non−magnetic HMC



Copper in Labradorean Till: Silt and Clay Fraction

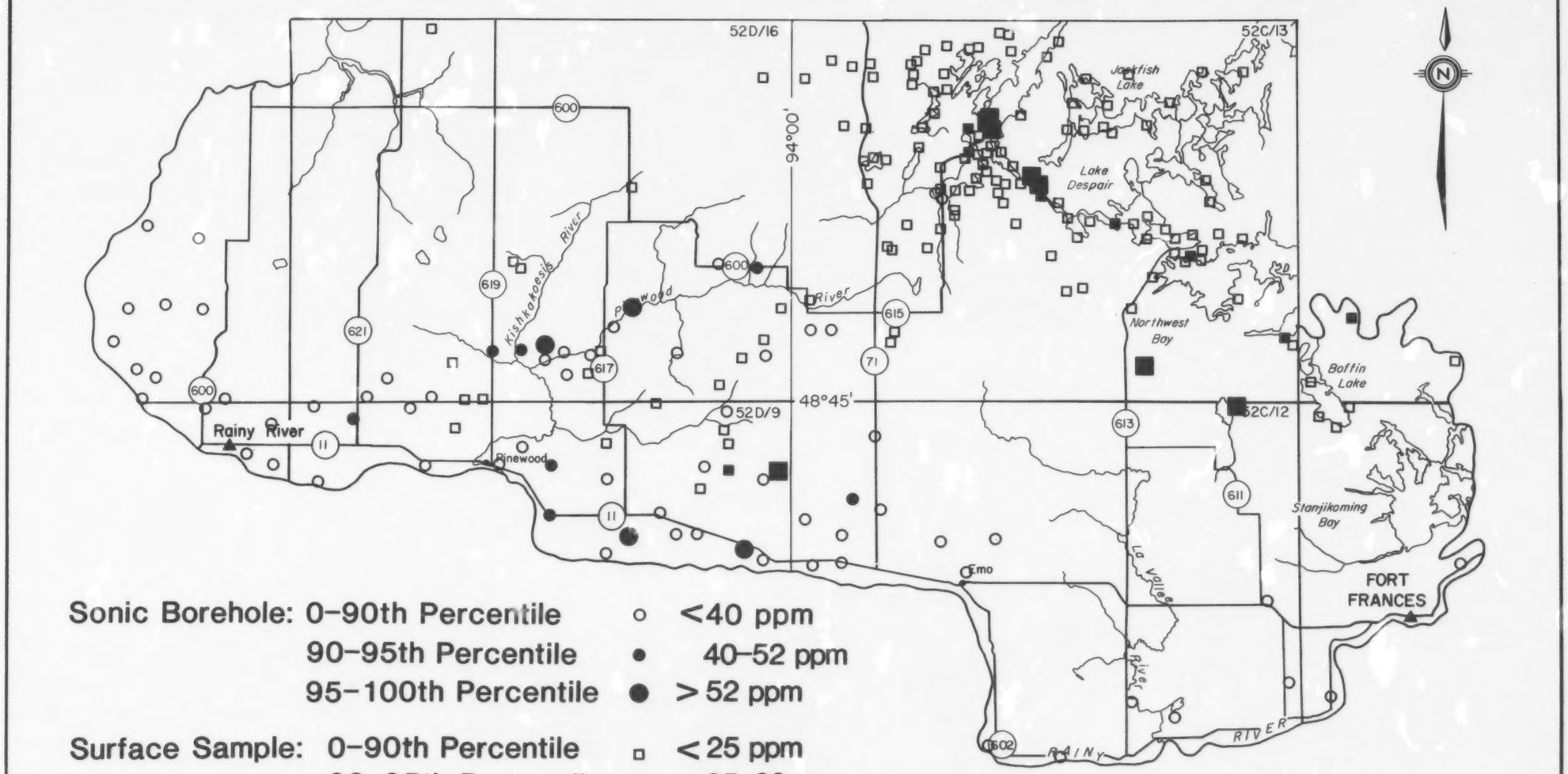


Sonic Borehole: 0–90th Percentile ○ <58.7 ppm
90–95th Percentile ● 58.7–129.4 ppm
95–100th Percentile ● >129.4 ppm

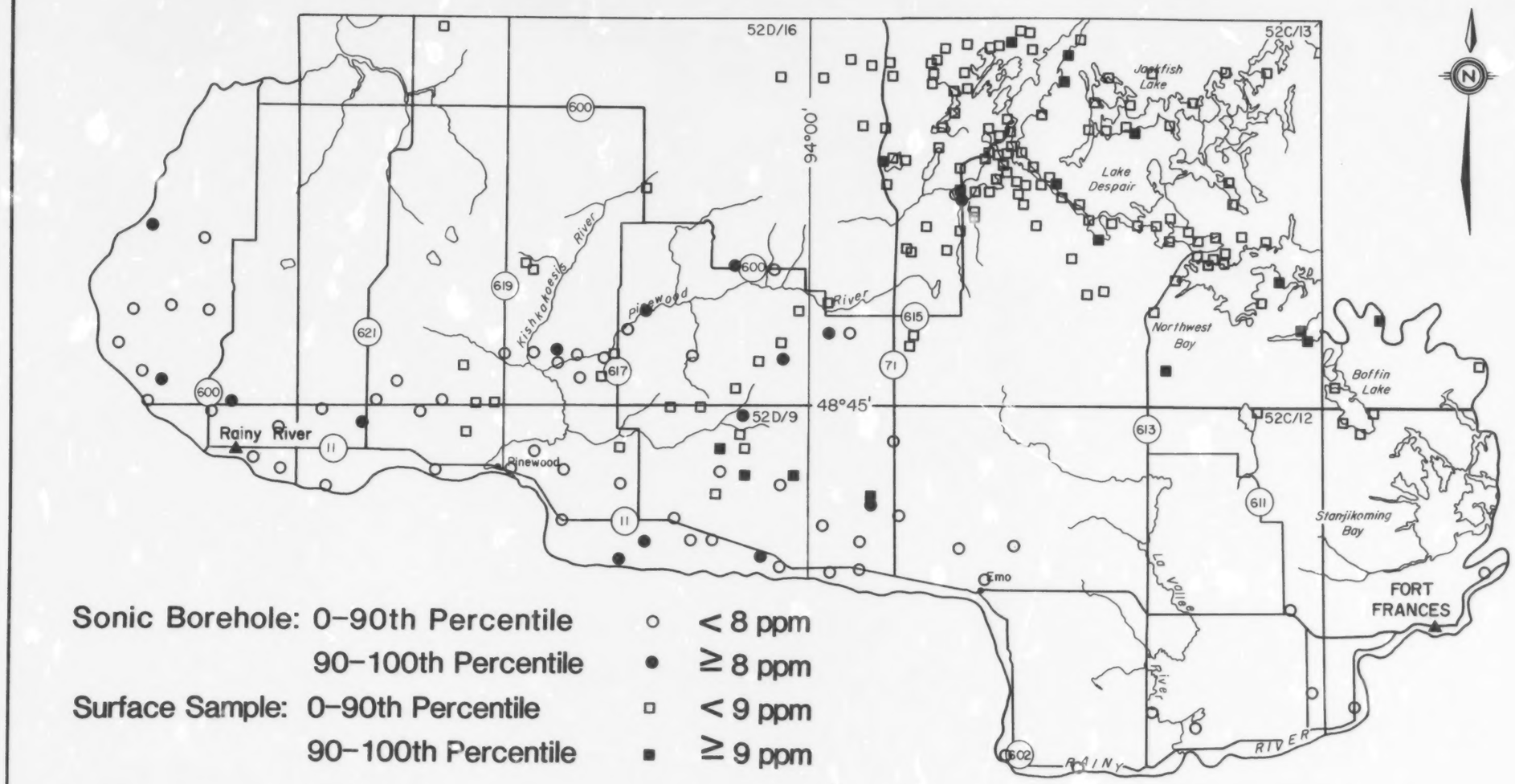
Surface Sample: 0–90th Percentile □ <109.7 ppm
90–95th Percentile ■ 109.7–122.9 ppm
95–100th Percentile ■ >122.9 ppm

0 20 kms

Lead in Labradorean Till: −2 mm Non−magnetic HMC



Lead in Labradorean Till: Silt and Clay Fraction



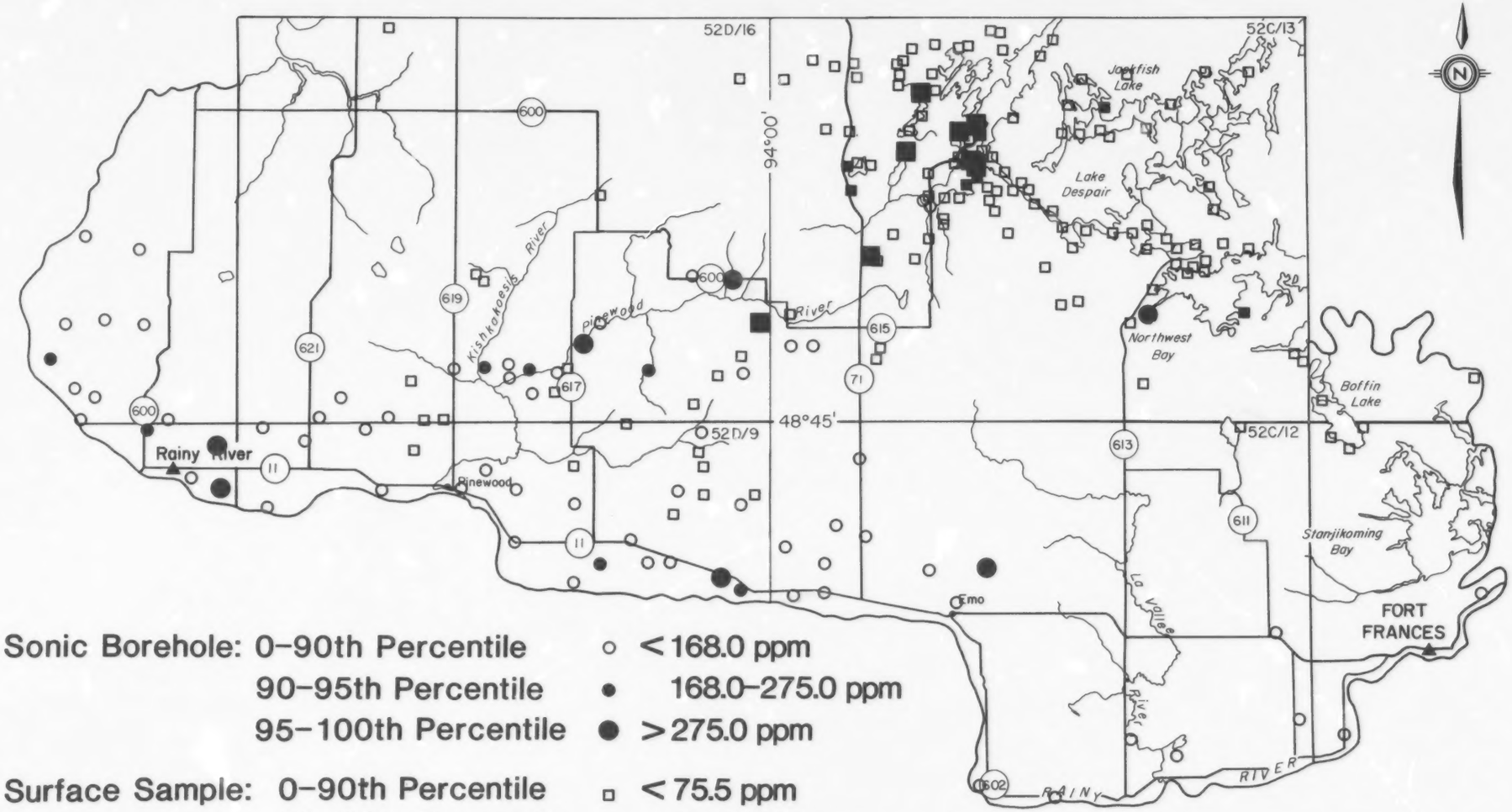
Sonic Borehole: 0–90th Percentile ○ < 8 ppm

90–100th Percentile ● ≥ 8 ppm

Surface Sample: 0–90th Percentile □ < 9 ppm

90–100th Percentile ■ ≥ 9 ppm

Zinc in Labradorean Till: −2 mm Non−magnetic HMC

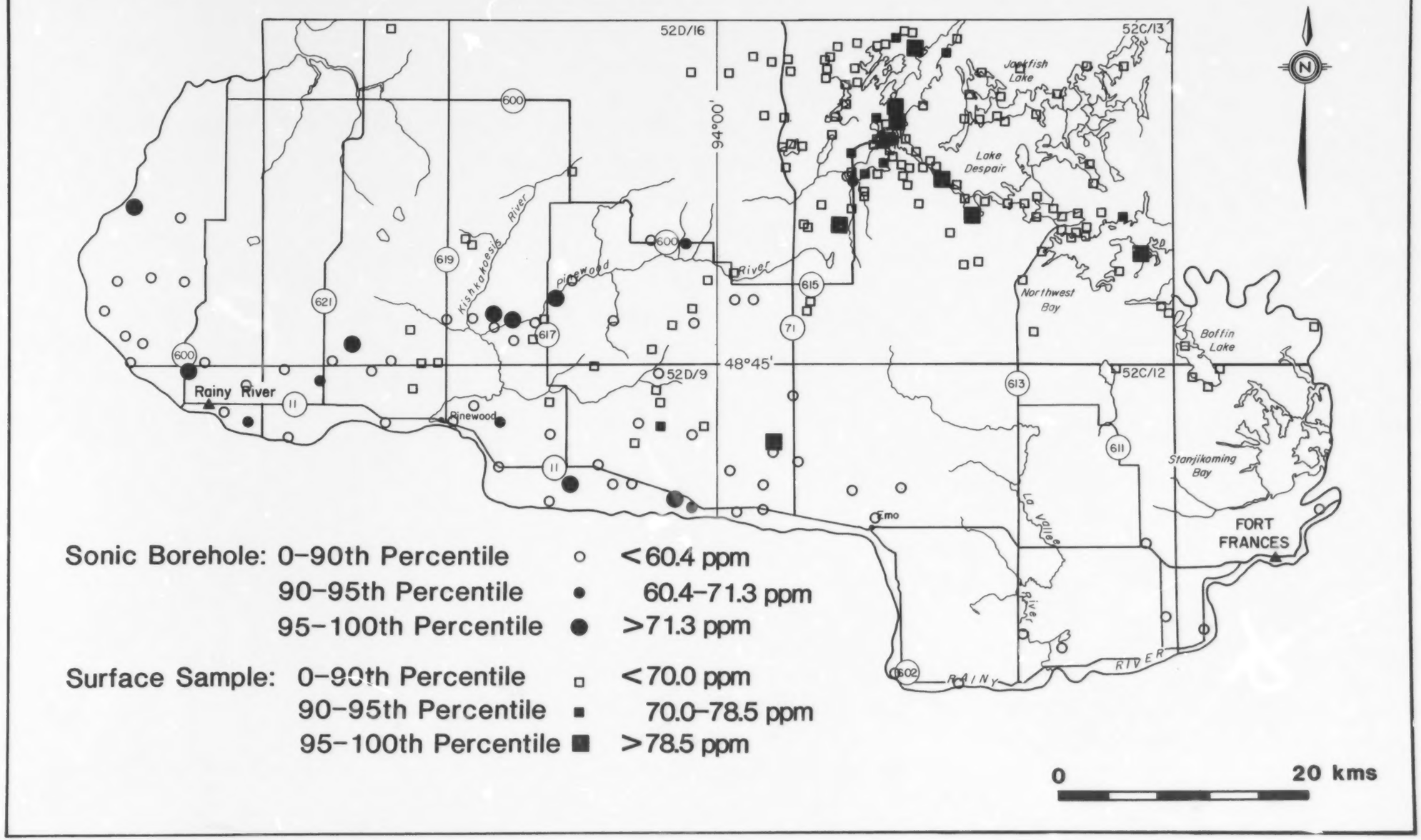


Sonic Borehole: 0−90th Percentile ○ < 168.0 ppm
90−95th Percentile ● 168.0−275.0 ppm
95−100th Percentile ● > 275.0 ppm

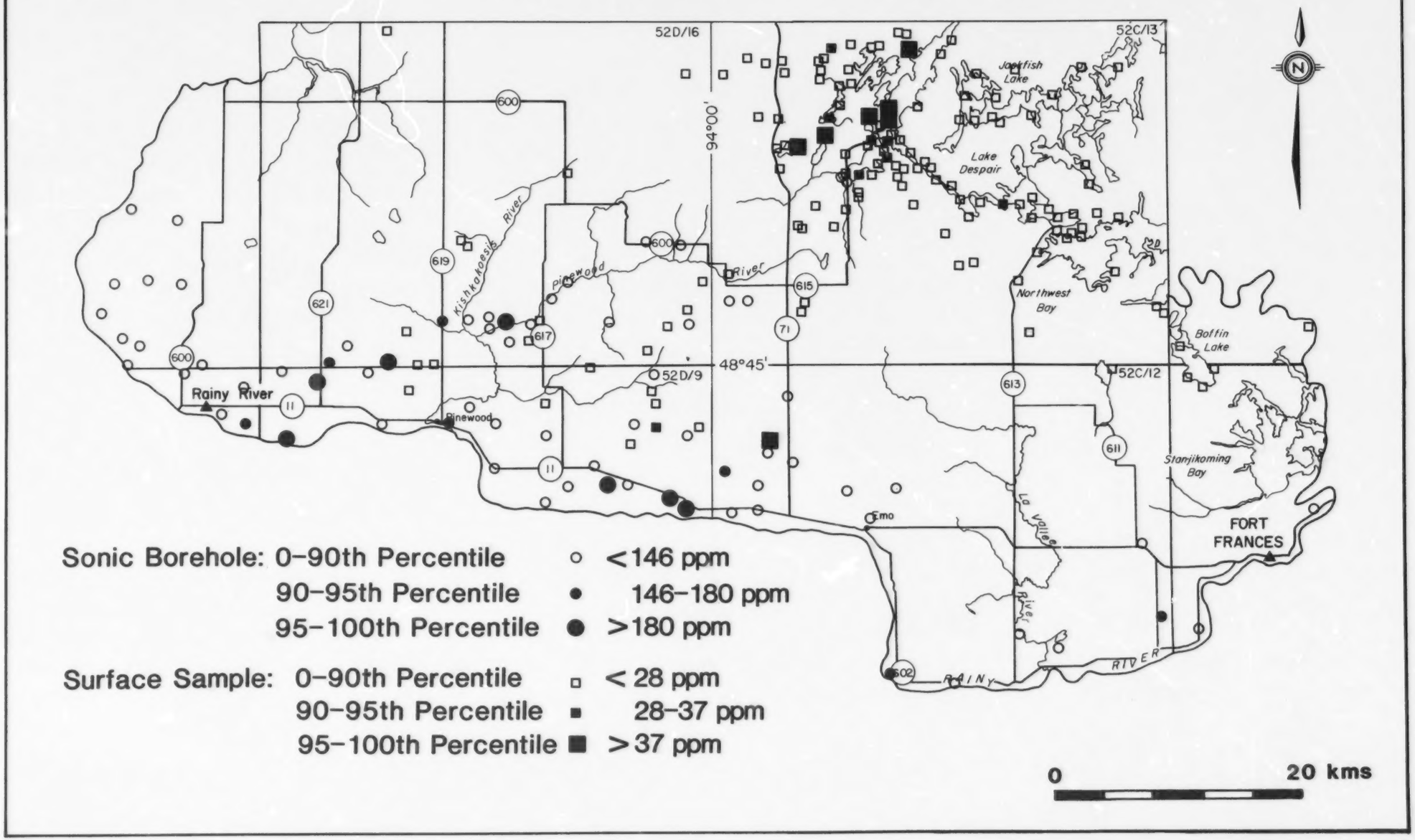
Surface Sample: 0−90th Percentile □ < 75.5 ppm
90−95th Percentile ■ 75.5−97.5 ppm
95−100th Percentile ■ > 97.5 ppm

0 20 kms

Zinc in Labradorean Till: Silt and Clay Fraction



Nickel in Labradorean Till: -2 mm Non-magnetic HMC

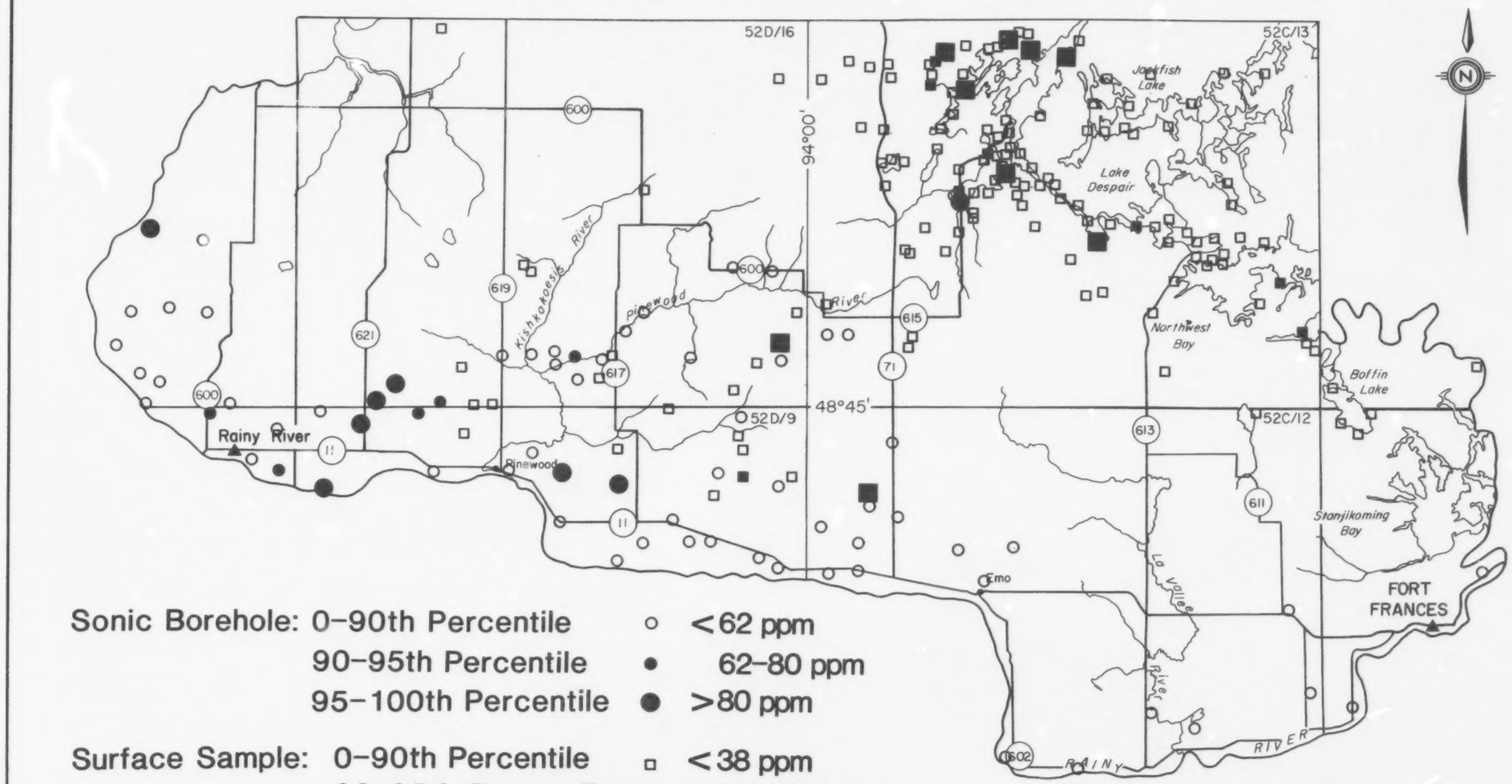


Sonic Borehole: 0-90th Percentile ○ <146 ppm
90-95th Percentile ● 146-180 ppm
95-100th Percentile ● >180 ppm

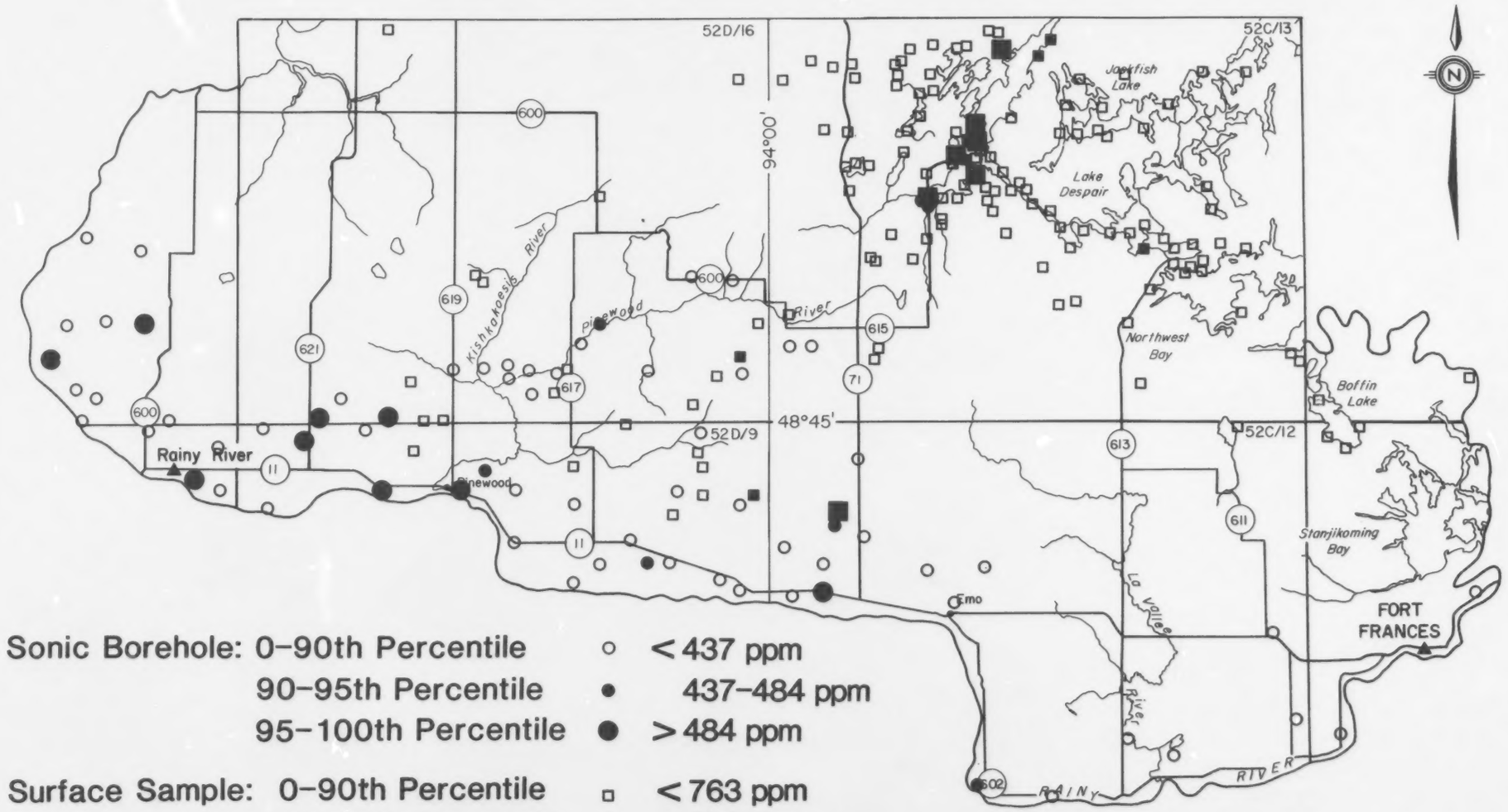
Surface Sample: 0-90th Percentile □ <28 ppm
90-95th Percentile ■ 28-37 ppm
95-100th Percentile ■ >37 ppm

0 20 kms

Nickel in Labradorean Till: Silt and Clay Fraction



Chromium in Labradorean Till: −2 mm Non−magnetic HMC

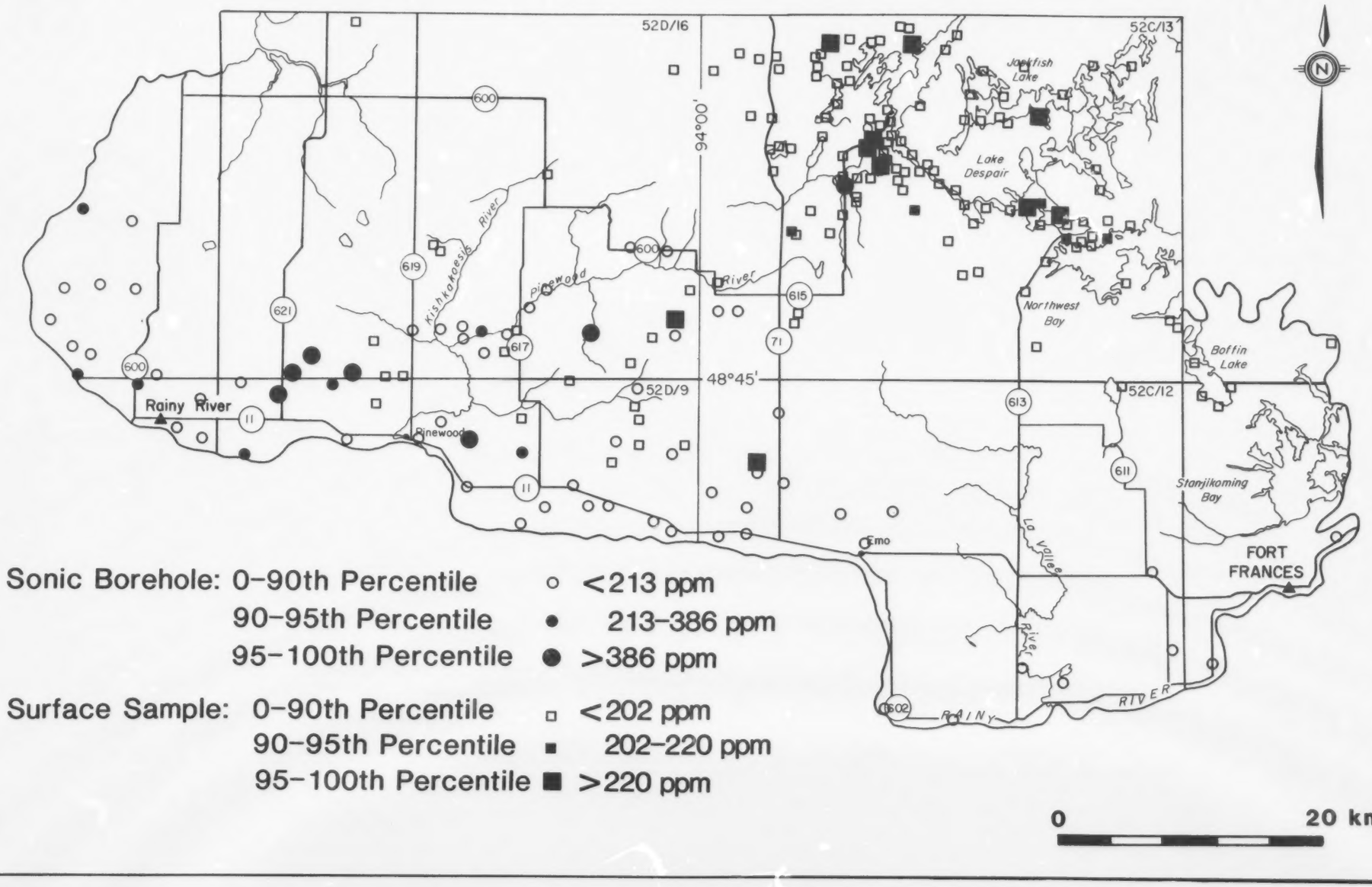


Sonic Borehole: 0−90th Percentile ○ < 437 ppm
90−95th Percentile ● 437−484 ppm
95−100th Percentile ● > 484 ppm

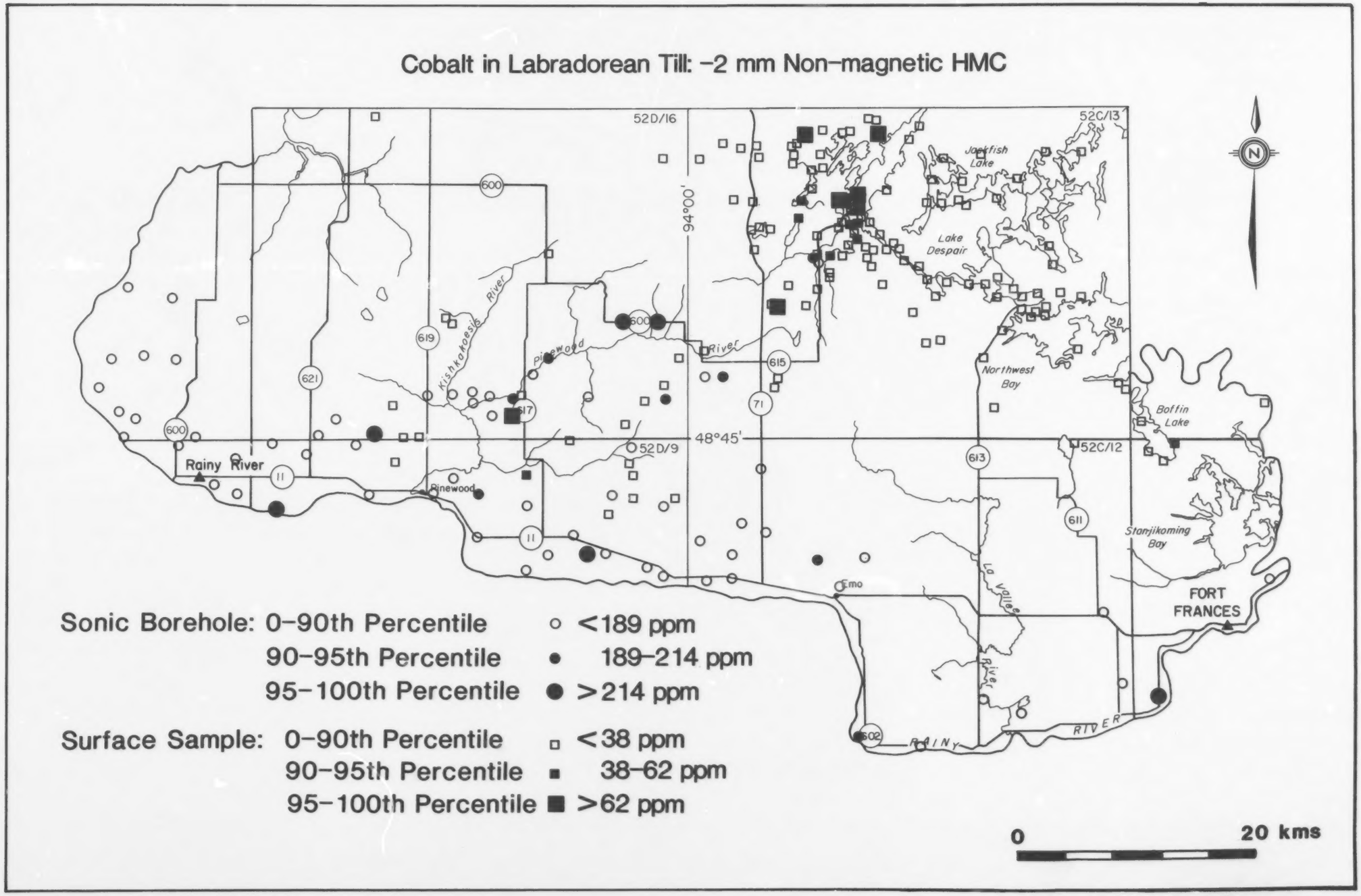
Surface Sample: 0−90th Percentile □ < 763 ppm
90−95th Percentile ■ 763−900 ppm
95−100th Percentile ■ > 900 ppm

0 20 kms

Chromium in Labradorean Till: Silt and Clay Fraction



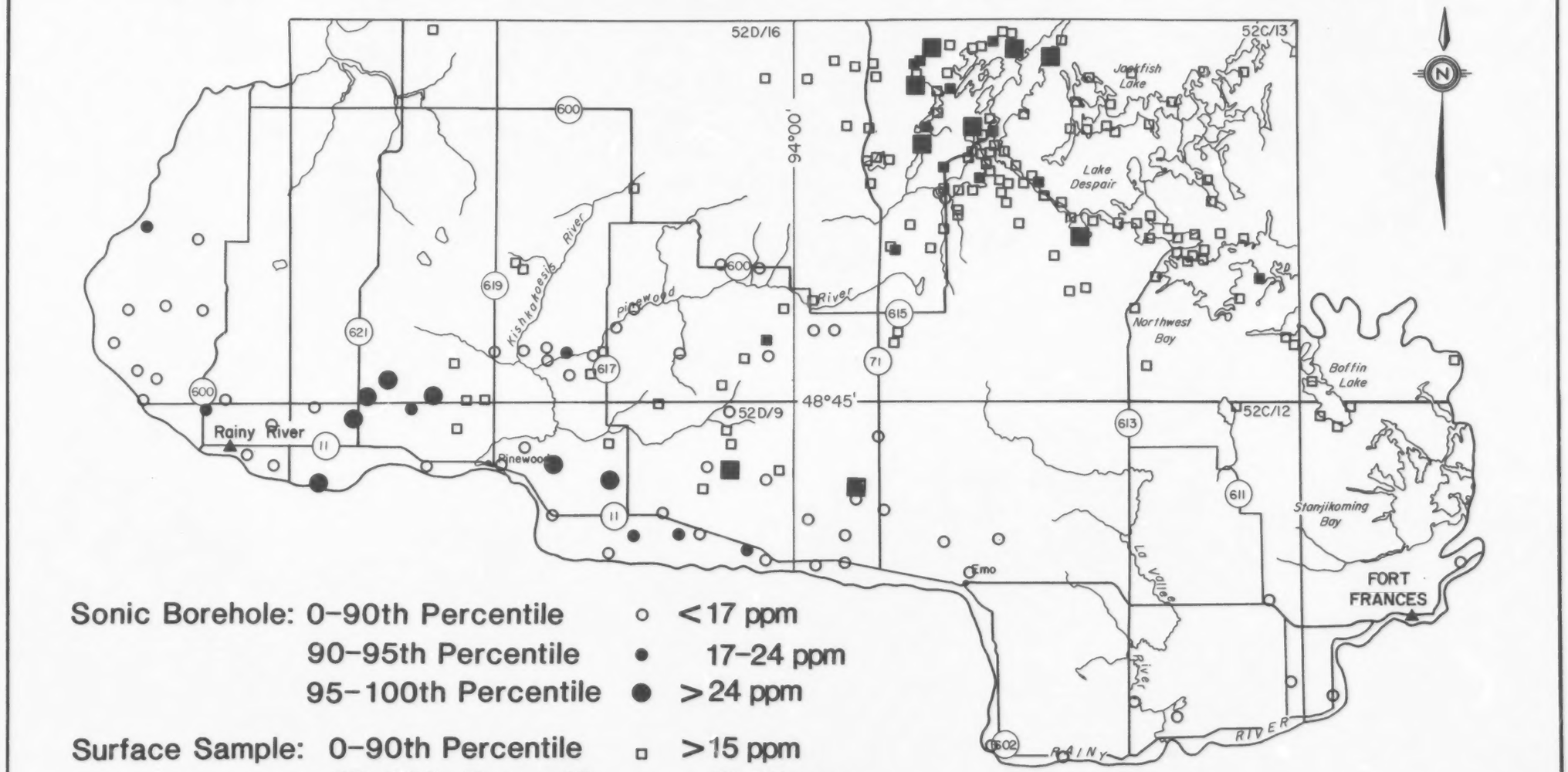
Cobalt in Labradorean Till: −2 mm Non−magnetic HMC



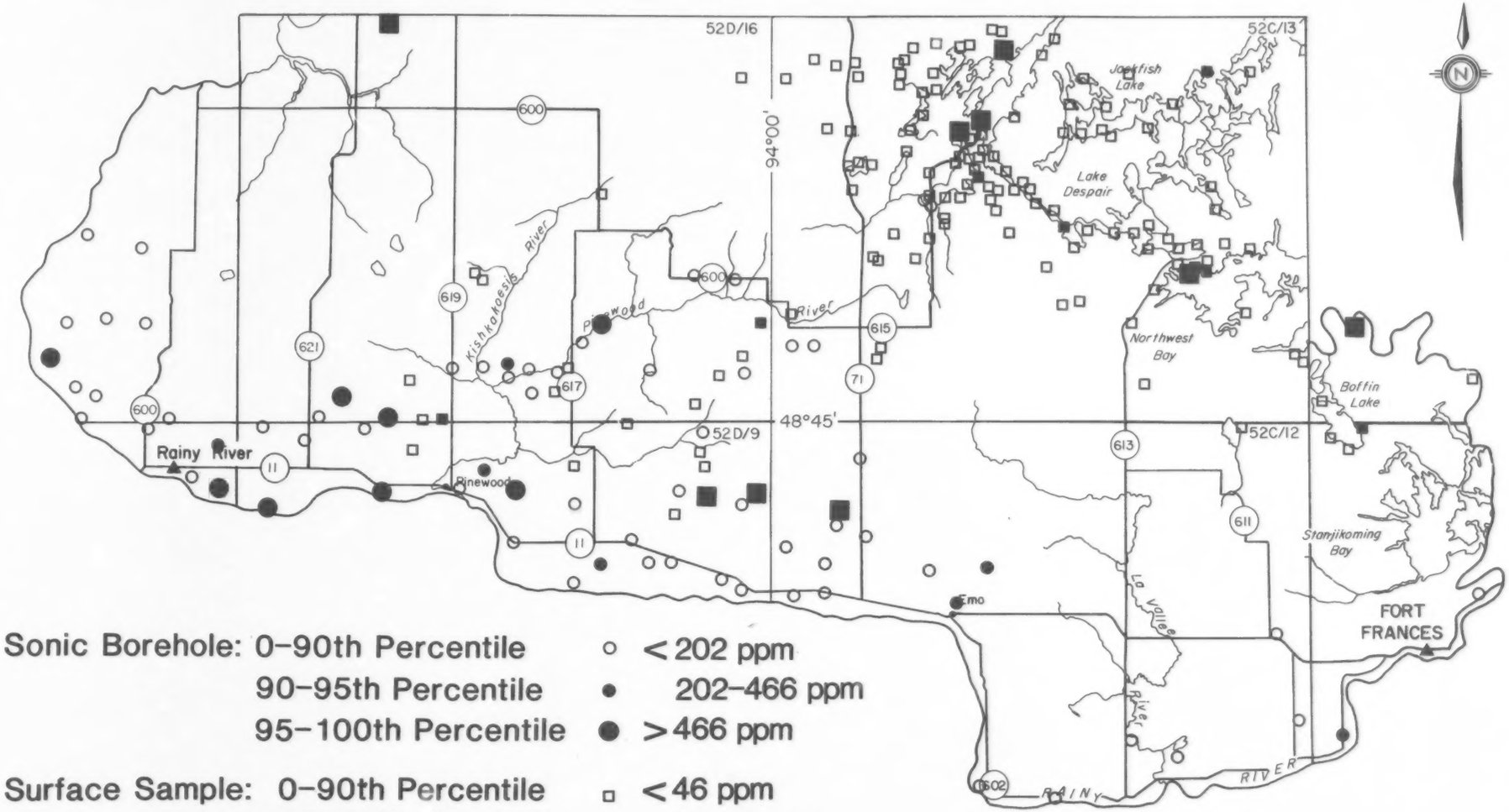
Sonic Borehole: 0−90th Percentile ○ <189 ppm
90−95th Percentile ● 189−214 ppm
95−100th Percentile ● >214 ppm

Surface Sample: 0−90th Percentile □ <38 ppm
90−95th Percentile ■ 38−62 ppm
95−100th Percentile ■ >62 ppm

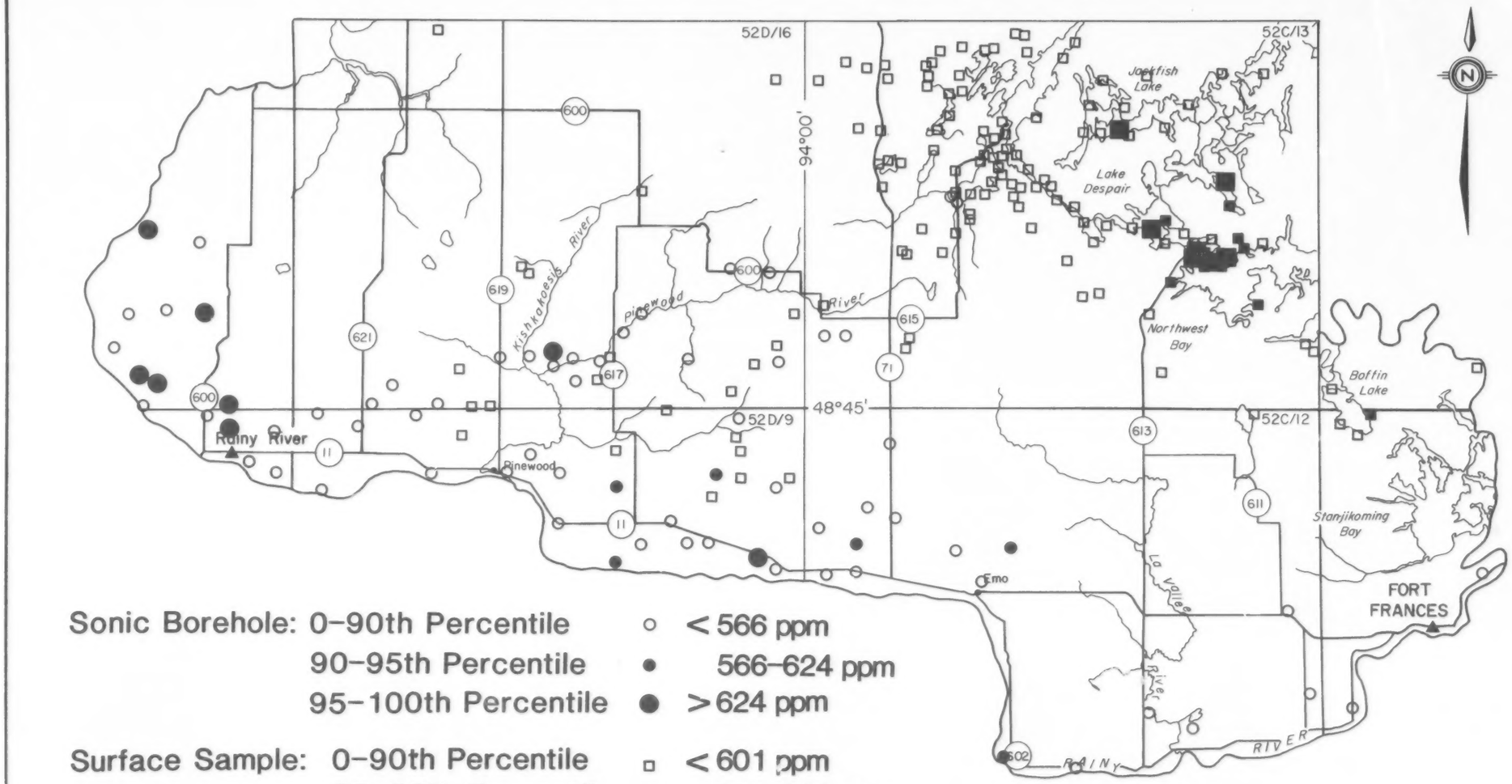
Cobalt in Labradorean Till: Silt and Clay Fraction



Barium in Labradorean Till: −2 mm Non−magnetic HMC



Barium in Labradorean Till: Silt and Clay Fraction



Sonic Borehole: 0–90th Percentile ○ < 566 ppm
90–95th Percentile ● 566–624 ppm
95–100th Percentile ● > 624 ppm

Surface Sample: 0–90th Percentile □ < 601 ppm
90–95th Percentile ■ 601–689 ppm
95–100th Percentile ■ > 689 ppm

0 20 kms

SILT AND CLAY VERSUS NON-MAGNETIC HEAVY MINERAL CONCENTRATE GEOCHEMISTRY

As an aid to mineral exploration, it may be advantageous to know the relationship between the geochemistry of the silt and clay fraction versus the non-magnetic heavy mineral fraction as well as the effects of physical and chemical weathering on sample geochemistry. X-Y plots for gold, copper, zinc, and nickel have been constructed to compare the geochemistry of these two fractions from both surface and borehole samples (Datasheet Series F).

General correlations exist between the fine and non-magnetic heavy mineral fractions of till samples for Au, Cu, Zn and Ni although, at varying levels. The base metals generally exhibit the strongest correlations. Correlation coefficients between 0.3 and 0.4 for Au are considerably higher than those for tills of the Matheson area of northeastern Ontario (McClenaghan 1990b; Bloom and Steele 1989). In all cases, surface samples display lower correlation coefficients than borehole samples. This is attributed to the oxidation of sulphide minerals, many of which host base and precious metals, and the redistribution of these elements. The base metals are usually adsorbed by clay particles and are therefore enriched in the fine fraction of the weathering profile (Shilts 1984). As a result, silt and clay samples have elevated base metal signatures with respect to the heavy mineral concentrates.

If fine-grained gold is tied up in sulphide minerals, it will act in a similar manner.

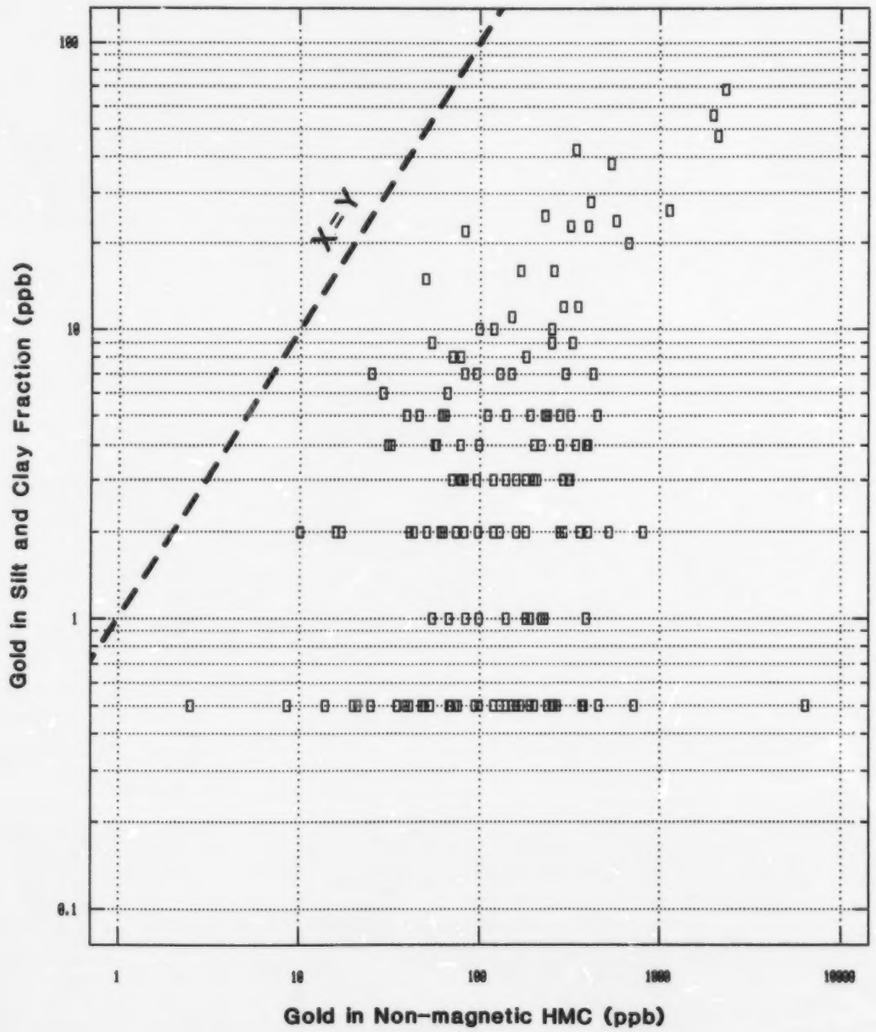
The explorationist may choose the fine or heavy mineral fraction for geochemical analysis. In the Fort Frances study area, however, the gold grain data suggests that most of the gold is fine grained (i.e., it occurs in the silt and clay size range). It may therefore be advantageous to analyze the fine fraction (less than 0.063 mm) of the till for its gold content. This limits the use of reverse circulation drilling as an exploration tool in areas of thick drift since the fine fraction of sandy till is commonly not fully recovered (Shelp and Nichol 1987). More expensive techniques, such as sonic drilling, are necessary to recover the silt and clay fraction.

The fine fraction of surface till samples is best suited for base metal geochemistry for reasons stated above. Small samples and minimal sample processing are required prior to geochemical analysis thus making this technique less expensive.

COMPARISON OF SILT AND CLAY FRACTION GEOCHEMISTRY TO NON-MAGNETIC HMC GEOCHEMISTRY

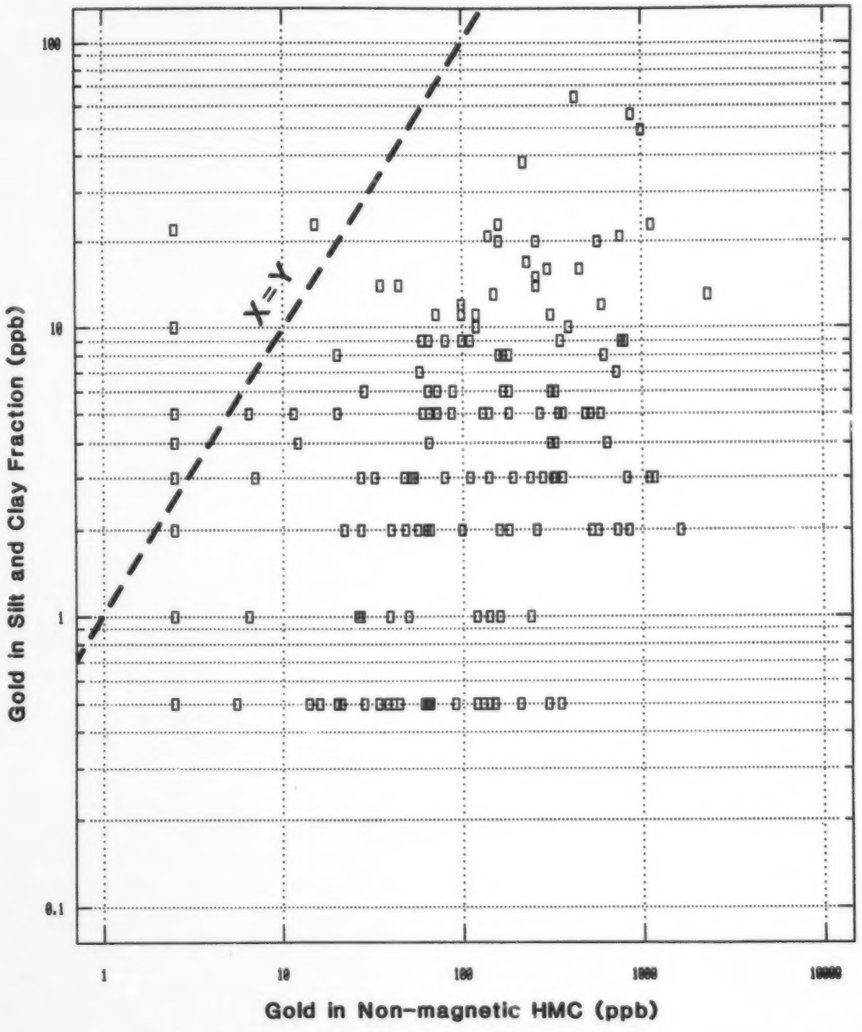
BOREHOLE SAMPLES

N=178 R=0.37



SURFACE SAMPLES

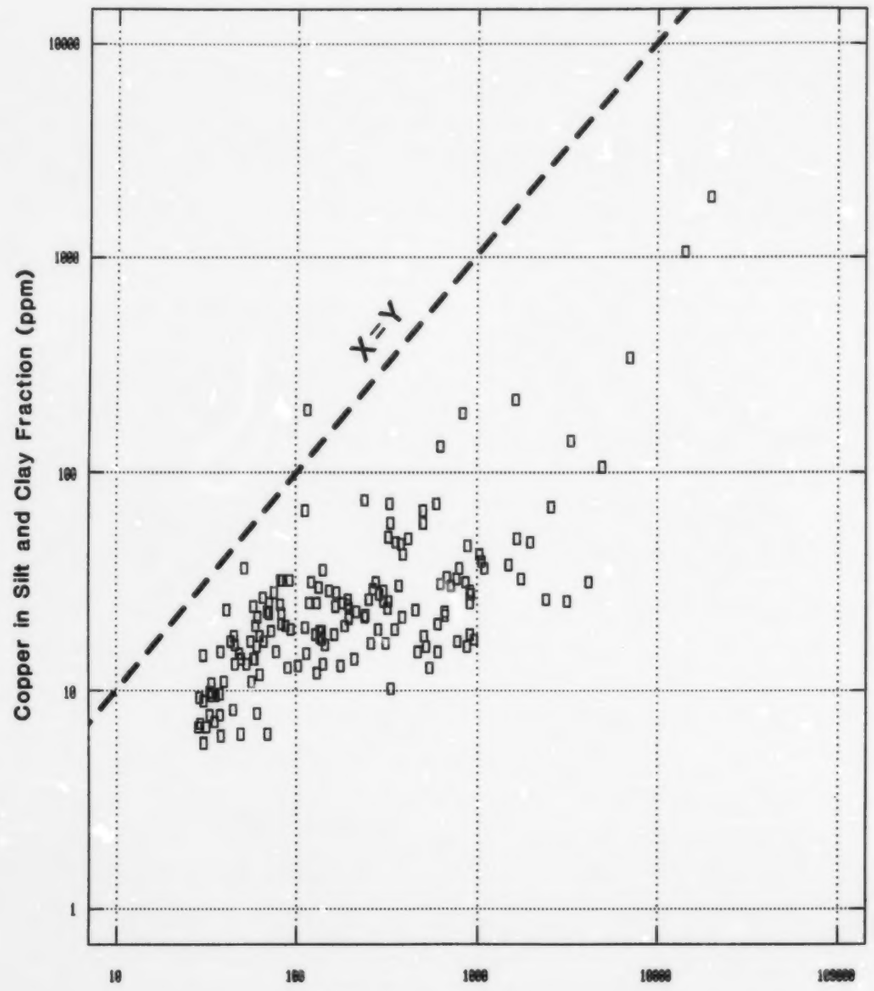
N=163 R=0.29



COMPARISON OF SILT AND CLAY FRACTION GEOCHEMISTRY TO NON-MAGNETIC HMC GEOCHEMISTRY

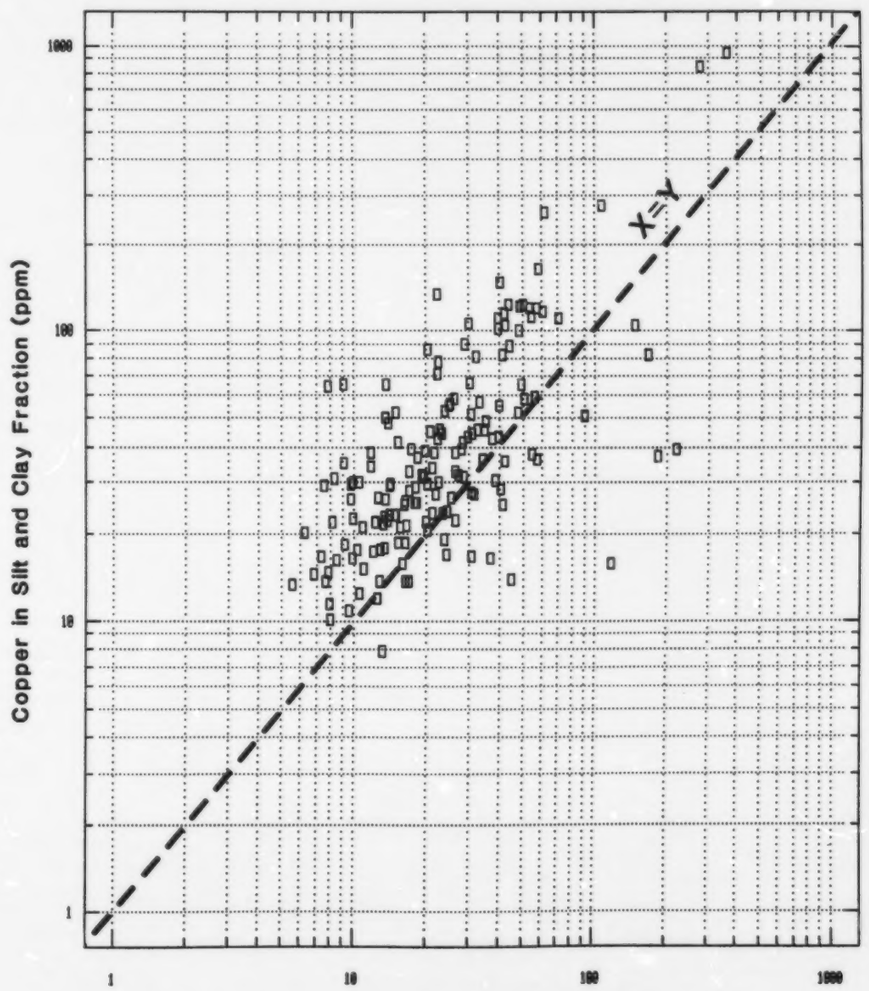
BOREHOLE SAMPLES

N=178 R=0.94



SURFACE SAMPLES

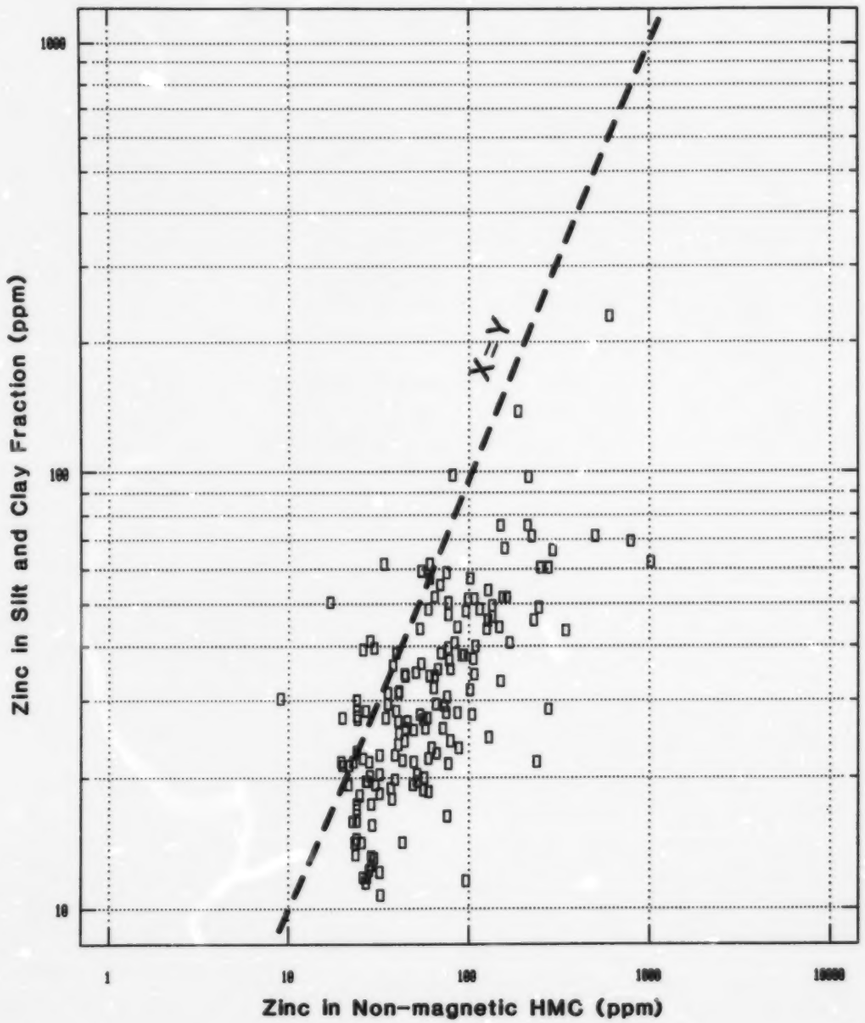
N=163 R=0.78



COMPARISON OF SILT AND CLAY FRACTION GEOCHEMISTRY TO NON-MAGNETIC HMC GEOCHEMISTRY

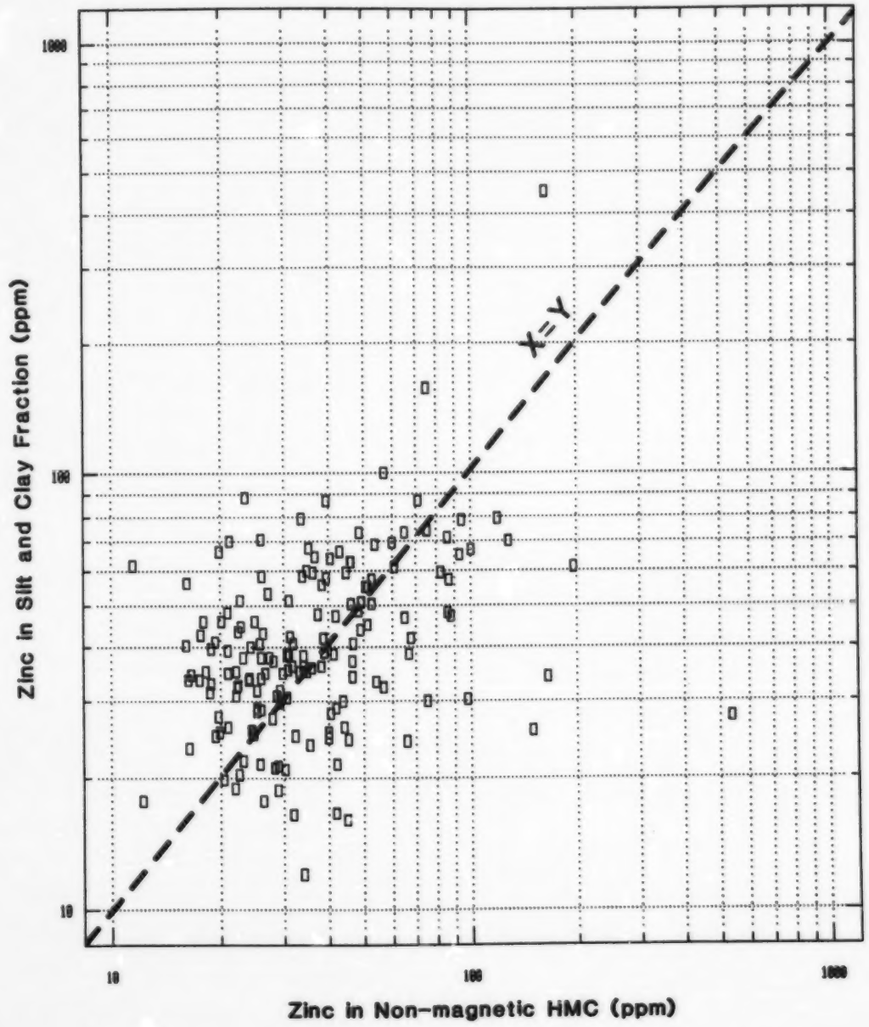
BOREHOLE SAMPLES

N=178 R=0.57



SURFACE SAMPLES

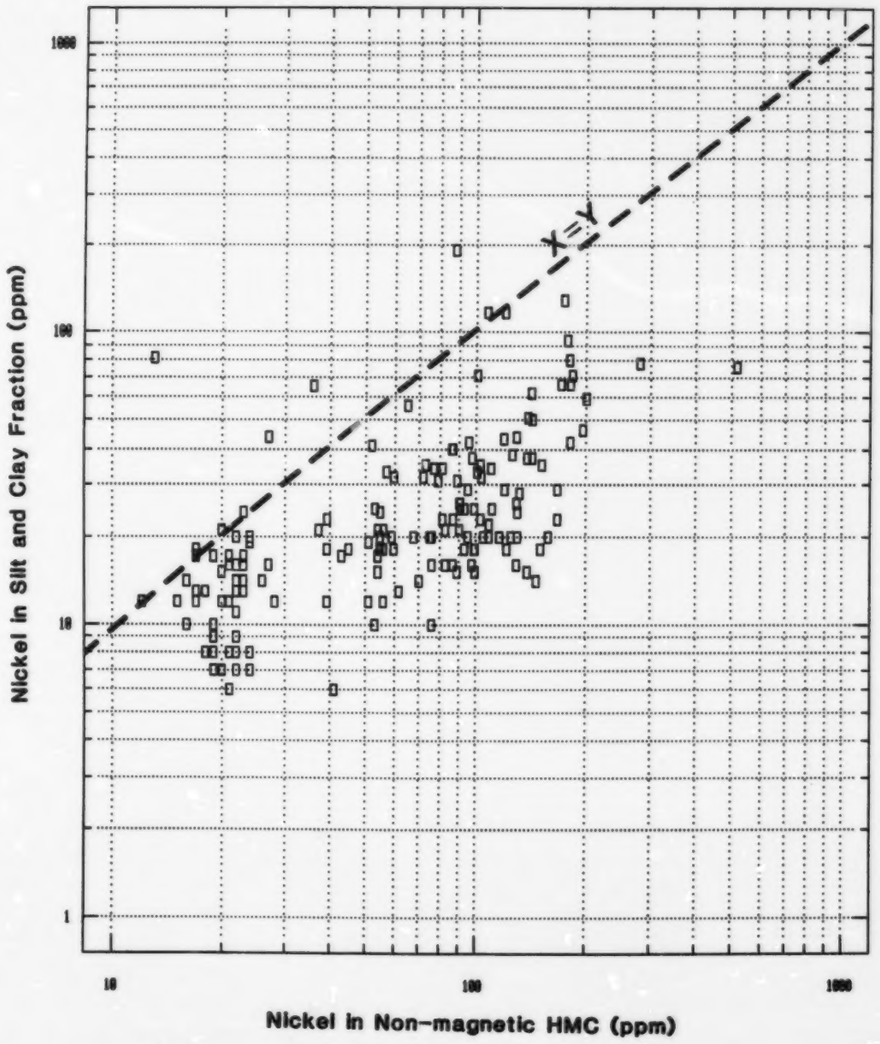
N=163 R=0.24



COMPARISON OF SILT AND CLAY FRACTION GEOCHEMISTRY TO NON-MAGNETIC HMC GEOCHEMISTRY

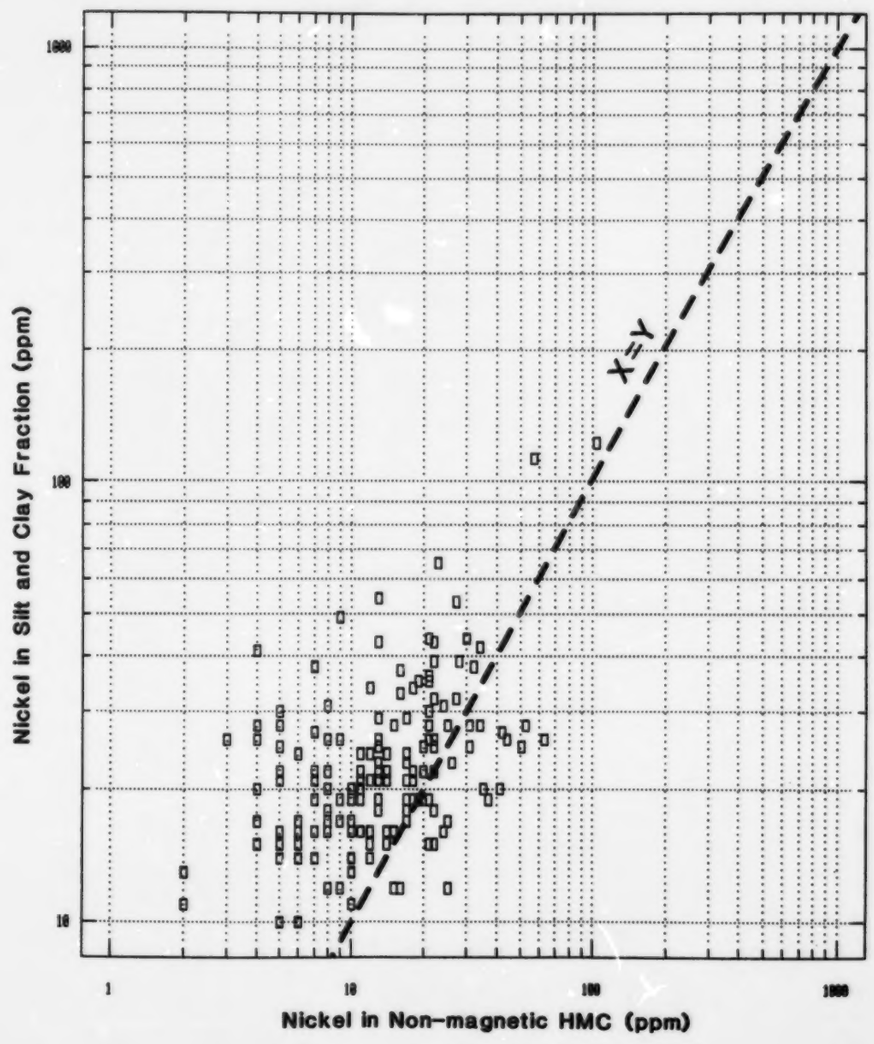
BOREHOLE SAMPLES

N=178 R=0.50



SURFACE SAMPLES

N=163 R=0.60



CONCLUSIONS AND RECOMMENDATIONS

A program of Quaternary geology which consisted of detailed surficial mapping and regional drift geochemistry was undertaken in the Fort Frances-Rainy River area. The mapping program was aimed at establishing a framework of Quaternary geology to assist in the interpretation of the geochemical dataset produced as part of the follow-up till sampling program.

Two widespread glacial drift packages have been recognized within the report area. The oldest glacial package lies directly upon bedrock and was deposited by a southwesterly advance (210^{o} Az.) of Labradorean ice. This advance resulted in the deposition of relatively coarse-grained (stony, silty and sandy) till and stratified sediments which contain lithologies of local provenance. The youngest glacial package forms the surface drift unit across most of the report area and was deposited by an easterly advance (90^{o} Az.) of Keewatin ice. The sediments (till and stratified sediments) deposited during the advance and retreat are fine-grained (silty and clayey) and contain pebble rock types derived from distant sources to the west. The older, northeastern derived till sheet is the preferred sampling medium for a drift prospecting program as it often reflects the local bedrock geology.

Till and glaciofluvial sand samples were obtained from 71 sonic boreholes, 44 backhoe trenches, and 165 handdug testpits. Samples were analyzed to determine matrix grain

size and carbonate content; pebble size, shape, and lithology; mineralogy of the less than 2 mm non-magnetic heavy mineral concentrate; and gold and copper grain content, which includes an analysis of grain size and shape. Geochemical analyses were performed on the silt and clay (less than 0.063 mm) fraction of all till samples as well as on the less than 2 mm magnetic and non-magnetic heavy mineral concentrates of till and glaciofluvial sand samples.

Gold grains were recovered from northeastern derived till samples at concentrations far surpassing those of western derived till. Background values of 2 to 5 grains per 7 to 10 kg bulk till sample are not uncommon for the lower drift unit. Samples of northeastern derived till containing large numbers of delicate gold grains should be considered significant in a drift prospecting program. Most of the gold grains recovered from both surface and borehole samples of northeastern derived drift occur in the size range, 25 to 75 μm. This small size may reflect either their transport history or origin. The geochemical responses associated with samples containing large numbers of small gold grains are often at the background level. The gold grain anomalies found as a result of this study should still be considered significant and followed up with further work.

Large numbers of native copper grains have been recovered from unweathered samples of northeastern derived till. The grains are probably derived from the mechanical

dispersal of supergene enriched copper concentrated at or near the weathered bedrock surface.

Thick saprolites, presumed to be Cretaceous in age, have been documented in the report area. Supergene enrichment of sulphide minerals and native elements during Cretaceous and Tertiary weathering has long been recognized as an important mechanism for the formation of mineral deposits and smaller uneconomic metallic concentrations. The mechanical dispersal of sulphide minerals and base metal elements, such as copper, concentrated by supergene enrichment may be responsible for local geochemical anomalies. Supergene enrichment should not be ruled out as a possible source for some of the gold within the study area as well. Close inspection of surface textures and shapes of both native copper and gold grains panned from heavy mineral concentrates may yield valuable information with regard to origin and transport history. A thorough examination of pebbles and heavy minerals contained within till samples, as well as petrographic analysis of saprolites, is necessary to evaluate anomalies.

The geochemical results obtained from surface and borehole samples of northeastern derived till must be treated separately. This report has not attempted to further subdivide the till sample populations into distinct bedrock domains because of the poor understanding of the subsurface geology.

Statistical computations have clearly demonstrated the effect of surface weathering on till geochemistry. Threshold anomalies for gold and the base metals are significantly different for these environments. The silt and clay fraction of surface till samples is recommended for analysis in geochemical prospecting. The clay fraction, in particular, scavenges the base metals released by the oxidation of sulphide mineral grains in the weathering profile and for this reason, has elevated elemental values. The silt and clay fraction of borehole samples may be desireable for gold determinations since most of the gold grains fall into this size fraction. The analysis of heavy mineral concentrates is also recommended for gold grain counts and base metal geochemistry.

Weak elemental associations occur between Au and its pathfinder elements, As and Sb, only in the range of anomalous values. The base metals associations of Cu-Pb-Zn and Ni-Cr-Co-Pt-Pd occur with varying degrees in the four sample populations. These associations should be used as an aid to geochemical prospecting.

The geochemical and heavy mineral dataset produced as part of this study has defined several areas of enhanced mineral potential which warrant further investigation. The most important of these are located in Potts, Fleming, Senn and Menary townships in the vicinity of Off Lake and Burditt Lake and within a more diffuse zone spanning Richardson,

Patullo, Tait, Shenston and Morley townships. Multi-element geochemical anomalies are common in these areas.

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CONVERSION FACTORS FOR MEASUREMENTS IN ONTARIO GEOLOGICAL SURVEY PUBLICATIONS

Conversion from SI to Imperial			Conversion from Imperial to SI		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
		LENGTH			
1 mm	0.039 37	inches	1 inch	**25.4**	mm
1 cm	0.393 70	inches	1 inch	**2.54**	cm
1 m	3.280 84	feet	1 foot	**0.304 8**	m
1 m	0.049 709 7	chains	1 chain	20.116 8	m
1 km	0.621 371	miles (statute)	1 mile (statute)	**1.609 344**	km
		AREA			
1 cm^2	0.155 0	square inches	1 square inch	**6.451 6**	cm^2
1 m^2	10.763 9	square feet	1 square foot	**0.092 903 04**	m^2
1 km^2	0.386 10	square miles	1 square mile	2.589 988	km^2
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
		VOLUME			
1 cm^3	0.061 02	cubic inches	1 cubic inch	**16.387 064**	cm^3
1 m^3	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m^3
1 m^3	1.308 0	cubic yards	1 cubic yard	0.764 555	m^3
		CAPACITY			
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	**4.546 090**	L
		MASS			
1 g	0.035 273 96	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 75	ounces (troy)	1 ounce (troy)	**31.103 476 8**	g
1 kg	2.204 62	pounds (avdp)	1 pound (avdp)	**0.453 592 37**	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	**907.184 74**	kg
1 t	1.102 311	tons (short)	1 ton (short)	**0.907 184 74**	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	**1016.046 908 8**	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	**1.016 046 908 8**	t
		CONCENTRATION			
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

	Multiplied by	
1 ounce (troy) per ton (short)	20.0	pennyweights per ton (short)
1 pennyweight per ton (short)	0.05	ounces (troy) per ton (short)

Note: Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries, published by the Mining Association of Canada in co-operation with the Coal Association of Canada.

MAPS
NOT
FILMED

CARTES
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